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EDINBURGH MEDICAL JOURNAL,

COMBINING
THE MONTHLY JOURNAL OF MEDICINE
AND
THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

VOL. XXIII.—PART II.

JANUARY TO JUNE 1878.

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28.11.44

EDINBURGH:
OLIVER AND BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, AND CO.

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EDINBURGH: PRINTED BY OLIVER AND BOYD, TWEEDDALE COURT.

Part First.

ORIGINAL COMMUNICATIONS.

Article I.—*The Treatment of Fibroid Tumours of the Uterus: An Address at the Opening of the Thirty-seventh Session of the Edinburgh Obstetrical Society.*

By Professor Alexander Russell Simpson, President.

INTRODUCTORY.

Gentlemen,—Fellows of the Edinburgh Obstetrical Society,—We constitute to-night the first meeting of the thirty-seventh session of our Society. The special department of medicine which we cultivate must have some peculiar power to interest its followers and inspire them with enthusiasm, when it can call together fortnight by fortnight, year after year, such a goodly gathering of the busiest practitioners. It has often struck me as something remarkable that where it was a question of forming imposing Corporations with splendid halls and libraries, and museums, and sumptuous annual dinners, and having power to issue licences and confer qualifications—the Physicians and the Surgeons should each require to found their separate College. The Obstetrician must sink his specialty to find a quiet corner inside one or other of their doors, and they are prepared to give a youth a full title to practise all the healing art who has had only a short three months' course of midwifery. How astonished one of these young licentiates of theirs must surely be to find, that when it comes to be a question of forming a society for the purpose of discussing subjects of scientific interest and practical importance, of relating cases and comparing notes and gathering experience, the Physicians and the Surgeons can do all this kind of modest work in one common Medico-Chirurgical Society, meeting once a month ; whilst the little heeded subject of Obstetrics draws its votaries steadily to its own bi-monthly meeting.

It may be worth our while to note that our subject not only has a fascination for the medical practitioner, it exerts a corresponding power over the medical lecturer. We can easily understand, apart from the interest of the subject, how surgery should have four representatives among the teachers under the wing of the colleges. For, 1st, students begin the study of surgery in the second year of their curriculum; 2d, double courses of surgery are required for some of the diplomas; and, 3d, there are two chairs of surgery within the University, one of which these teachers may justly aspire to fill—chairs which have each been filled up four several times within this century, and almost invariably by men who have been extra-mural lecturers on surgery. The subject which occupies us here is represented within the walls of the University by a single chair, which has only been vacant twice since the century began. The largest demand of any qualifying board is an attendance on a six months' course of midwifery; and that attendance is usually given only by students who have reached the last year of their curriculum, when their ranks have been thinned by the falling out of the weak, and indifferent, and incapable. Nevertheless, we have no fewer than four able extra-mural lecturers on midwifery; and, if I mistake not, our subject stirs honourable ambitions in the breasts of yet others among our members. So much the better for Obstetrics and the Edinburgh Obstetrical Society. We feel encouraged cheerily to greet this new session, and grasp one another's hand with honest hope that there will come out of our meetings some work that will be good for the advancement of science and for the advantage of our individual patients.

RECENT LOSSES.

But as I speak of grasping hands, I am reminded that there are some hands we shall grasp here no more. In February 1876, died Dr Joseph Hardie, whose young efforts among us led us to anticipate for him a career of great distinction. In May of the same year, Dr Louis Thatcher, who had long borne honourably a name already honoured in Obstetrics in an earlier generation. In June, Dr Myrtle, another of the well-known worthies of our profession, much valued by an attached circle of patients and friends. In April 1877, Dr Brotherston of Alloa, an expert operator, and one of our country members, who delighted to send or bring us some interesting specimen for exhibition, or important case for discussion. In June, Dr Clarkson Cuthbert, a careful and conscientious practitioner, who found time in the midst of his busy work to give frequent attendance at our meetings, and sometimes to contribute good material to our Transactions. And last of all, since the close of our last session, our aged friend Dr Ferguson, who had retired from a prolonged practice in the distant Highlands to spend the evening of his life in Edinburgh, and who attended our meetings with a punctuality, and brought to them an enthusiasm and devotion, that were an example to younger men.

A greater loss than all these, however, has befallen us in the removal from our city and Society of Dr Matthews Duncan. Happily, he has only passed a bourne from which travellers have sometimes returned. Scotchmen have been known to cross the Tweed with a return ticket in their pockets. But, meantime, we miss his impressive presence, his thoughtful countenance, his frequent and always welcome contributions, his weighty words of wise counsel or keen criticism, or kind encouragement. We miss them all and miss them sorely; for I am free to say that Duncan's going has made such a blank as would not be felt on the departure of any of the Fellows he has left behind him. We shall read with deeper interest the Transactions of the London Society, when we see his name among the illustrious names familiarly associated with it. But we shall hope sometimes to receive a memoir for our own Transactions from his fertile pen. Not that we need such a communication to recall him to our minds, because for us his name stands clear among the great names in Obstetrics, but it would ever be to us a welcome proof that distance has not deadened the attachment we have oft heard him express for this Obstetrical Society.

THE SOCIETY'S PUBLICATIONS.

It will not here be out of place to intimate that the fourth volume of our Transactions is now passing through the press, and in the course of two months will probably be published. It will contain the proceedings of the Society during the last three sessions, forming a goodly volume of some 420 pages, and to be had for the modest sum of 10s. 6d. It is greatly to be wished that all the Fellows would subscribe for copies, as the work is published at the Society's cost, and each copy that remains unsold is so much lost to the Society's funds. There is this good reason why those Fellows who have not already done so should do so now, and why, indeed, they should at the same time buy up the yet unsold copies of the three earlier volumes, that it is probably the last time they will have the opportunity of showing their affection for the Society by assisting in this way its modest treasury. For, as many of you will remember, the Council, mainly at the instance of our very energetic and efficient treasurer, Dr Craig, have made an arrangement with the publishers of the *Edinburgh Monthly Journal* for the printing of an annual fasciculus of our Transactions, which will be regularly delivered free of expense to every Fellow who regularly pays his usual annual contribution of 5s. to the funds of the Society. Two or three such fasciculi may be kept, and will be duly paged for binding into one single volume conform with those already published. The only drawback to the arrangement is a very slight one, and it is this: All the papers read at our meetings will require to be published in the ably-conducted and widely-circulated *Edinburgh Monthly Medical Journal;* or if any essayist prefers to have his paper published in some other journal, say in the *London Obstetrical Journal,* he will be obliged to furnish to the secretary a brief abstract of his paper to be printed in the *Monthly Journal* along with the report of the discussion on it. The Council expect that this will hardly be felt as a drawback in the carrying out of the new plan, and the treasurer is confident that many more members of the profession will be tempted to join our ranks by the prospect of becoming possessors of our printed proceedings without any expense other than the annual contribution.

UTERINE FIBROIDS.

At the meeting of Council, ten days ago, at which it was arranged that, as your retiring president, I should open this session with a special address, I stated that I thought I could venture to address you on the management of Fibroid Tumours of the Uterus, and I do not know that I could well address you on a more important subject. It is not only that they are very common, so that as many as one in every five women have been supposed to be the subject of them. In my own ward journal I find out of 68 cases admitted during the last three years with disease of the sexual system, 7 cases of fibroid tumour, or 10·3 per cent. It is not even that they are detrimental to health and dangerous to life; but it is because they exert such a baneful influence upon the reproductive powers of those who are affected by them. Out of sixteen married women, *e.g.* who were the subjects of fibroid tumours, and in regard to whose reproductive functions I have made a note, I find that only three had borne children. Thirteen out of the sixteen were barren.

THEIR PERNICIOUS INFLUENCE ON REPRODUCTION.

Other diseases of the generative organs may influence the reproductive process at one or more of its stages; but a fibroid tumour may mar the process at any or every step. It may compress the ovaries and hinder ovulation. I have known them such a cause of dyspareunia that the patient could not suffer marital intercourse; or, insemination having taken place, they may hinder the onward progress of the spermatazoa, so that the ovula are never fertilized. Or, again, the spermatozoa may have travelled through the irregular expanded cavity of the uterus, and fertilized an ovum in the Fallopian tube; but the fertilized ovum does not effect a lodgement in the uterine nest, or becomes attached only to be cast off as an early abortion or miscarriage. The fibroid tumour may lead thus to interruption of pregnancy at any stage, and where the development of the fœtus goes on to term, the child is apt to be found at the close in some irregular presentation or position in consequence of the irregularity in the walls of the cavity where it is lodged. Let us even suppose the pregnancy arrived at full time, and the fœtus fairly placed. Yet labour may be complicated in any of its stages. The first stage may be lingering; the second seriously obstructed; the third complicated with grave hæmorrhage. They even carry danger on into the puerperium, for a fibroid in the walls of the uterus may be a source of post-partum hæmorrhage, or may become the seat of an inflammatory process, dangerous in itself, and extending dangerously to surrounding structures.

THEIR PATHOLOGICAL NATURE AND ANATOMICAL SEAT.

I do not require to detain you with any lengthened exposition of their pathological nature and their anatomical relations. Enough if I remind you that whatever their ultimate relations, they spring from the middle muscular wall of the uterus, with the elements of which the neoplasmic elements are homologous, so that they present, as their most constant and characteristic constituent, quantities of unstriped muscular fibres, largely rudimentary, though sometimes more developed, collected in twisted bundles among a densely fibrous and granular connective tissue; and that, as regards their position in the walls, they may be found growing towards the serous surface (sub-peritoneal), or imbedded in the middle of the wall (intra-mural), or projecting towards the uterine cavity (submucous); and this relation of them to the thickness of the uterine parietes is a matter not merely of anatomical interest, but of great clinical importance, both as regards the symptoms that arise and the line of treatment that may most hopefully be instituted.

NATURAL TERMINATIONS.

Let us glance for a little at the methods by which, in certain cases, the disappearance of these tumours is brought about under the efforts of nature.

1*st. Fatty Degeneration.*—There are few things more certain in pathology than that these myomata occasionally wither in consequence of a process of fatty degeneration being set up in their constituent fibres. In cases where a gravid uterus has such a tumour in its walls, after the expulsion of the ovum whether prematurely or at full term, when the usual process of retrograde metamorphosis is set up in its proper muscular layers, the same process is set up in the homologous neoplasm imbedded among them; and as the uterine walls return to their normal pre-gravid measurements, the tumour diminishes and may altogether disappear. Our vice-president, Dr James Young, will recall such a case which I saw with him a few years ago. The patient had an easy enough labour, but a troublesome third stage and some degree of post-partum hæmorrhage. When I saw her next day the uterus was felt with its fundus an inch or two below the level of the umbilicus, and a large firm equable mass could be easily manipulated through the relaxed abdominal wall, growing from the upper part of the anterior wall of the uterus, and reaching the size of a child's head into the right hypochondrium. This large fibroid mass became greatly reduced in size during the puerperal week, and when the patient passed from under Dr Young's observation, it had diminished to the size of a hen's egg, and was lodged within the pelvic cavity. Two years ago I had under my own care and observation a primiparous lady, 36 years of age, in whom, from the fifth month and onwards, I had occasion from time to time to observe the presence of a fibroid tumour on the anterior aspect of the uterus. Through the abdominal walls it felt as if of the size of a walnut, and it projected very distinctly from the surface of the organ. Immediately after labour I could still feel it without any difficulty. During the puerperium it grew less with the lessening size of the uterus; and when the patient went to her home in the country, at the end of two months, I could not any longer trace its presence. I saw her some eight months later, in the fifth or sixth month of her second pregnancy, and still the outline of the uterus was smooth; the tumour had melted completely away, and had never been reproduced. A third instance I may adduce from the history of a patient of whom I shall have more to say by-and-by, but who states that after a labour, when she was about thirty years of age, an irregular mass was detected by her medical attendant in connexion with the uterus, which she declares to have had the same consistence as a fibroid mass now growing from the same organ. That tumour diminished and disappeared during her convalescence, so that she ceased to be able to detect its presence.

That these tumours, which disappear in the walls of a puerperal uterus, melt down by a process of fatty degeneration and disintegration does not, to my mind, admit of a doubt. There is more room for discussion as to whether such a process occurs in them under other circumstances. The fibroid-infested uterus is an organ in which nutritional disturbance has already taken place, and is prone to be repeated. It is an organ, therefore, in which inflammation is apt to be set up, and in which the effects of chronic inflammatory processes in general, and this of fatty degeneration of structural elements in particular, are frequently to be observed. The new growth, of somewhat low vitality, as evidenced by its feeble vascularity, will be specially liable to such change. Hence, in the case of a patient who died under efforts made to relieve her of the symptoms resulting from a group of fibroids in the walls of the uterus, and in whom inflammatory action had been set up in the organ, I could see some of the unstriped muscular fibres taken from the fibroids containing fatty particles, and evidently in an early stage of fatty degeneration. More frequently I have seen such degeneration, and in a more marked degree, in sections of such tumours that had sloughed out or been expelled under strong uterine contractions. I see no reason, therefore, to doubt that a similar process of disintegration may go on in them more slowly but as effectually in cases where the inflammatory action does not run so high, or spread so widely, as to lead to the patient's death; or in which the tumour continues to be crushed up within the uterine parietes without being expelled through the genital canal. It could only be by a fortunate accident, as it were, that such a change could be seen under the microscope, for it is precisely in such a case that the patient passes from the care of the clinician to better hands than those of the pathological anatomist.

2*d*. *Calcareous Degeneration.*—Another degenerative process to which they are occasionally liable is that which results in the diminution of their size and condensation of their structure along with a deposition of calcareous matter in their substance. This calcareous or osseous degeneration is most likely to occur in the fibroids of aged women. According to my experience, it is more frequent in the sub-peritoneal than the other varieties, though last session, through the kindness of Dr Watson of Mid Calder, I had the opportunity of exhibiting here an illustration of such a process affecting a sub-mucous fibroid, and to this preparation I shall refer more particularly anon.

3*d*. *Pedunculation and Extrusion.*—A third process by which nature sometimes gets rid of these neoplasms results from the physiological properties of the matrix in which they are developed. For the walls of the uterus have inherent in them a tendency to undergo a remarkable degree of development whenever any body gets lodged within them; and when the muscular fibres have attained a certain degree of development, they manifest their physiological character by contractions sometimes tonic and continuous, at other times more energetic but intermittent. The effect of such contractions on a fibroid that is not purely intramural, is to force it towards the surface in the direction of least resistance. If they grow from the external plane of the muscular coat they are driven towards the serous surface so as to become more definitely sub-peritoneal. They may there finally become pediculated, and where the neck is narrow the mass may even become detached and be left free to move about in the peritoneal cavity. Some years ago I had in my ward a woman upwards of forty years of age, with such a roving body of the size of a hen's egg, that could be pushed about anywhere in the abdominal cavity; and the nature of it seemed to be certified by an absolutely similar body of the same firm consistence and slightly larger size, which still retained its attachment to the fundus uteri by a narrow pedicle. We are more familiar with those which are driven in the opposite direction. I do not know that there is anything to show or to lead us to suppose that the inner plane of the muscular fibres is a more frequent seat of their development. Probably it is rather owing to the circumstance that the tumours so situated are subjected to more forcible compression from being more completely embraced by the uterine parietes. But however this may be, it is far from uncommon to find them in the form of an intrauterine fibrous polypus, sessile or attached to the interior of the organ by a longer or shorter neck, undergoing thus a process of slow extrusion; and in certain cases we meet them driven down under more energetic action of the uterus, and thrown off by this process of spontaneous expulsion. In such instances the tumour is driven on, covered with an investment from the uterine mucosa. But sometimes the mucous membrane on the surface sloughs off or ulcerates through, and then the naked tumour is driven out of its bed and born by the process which has been termed spontaneous enucleation.

THEIR TREATMENT.

Let us turn now, if you please, to the consideration of the means we may adopt to imitate these natural processes or to expedite them where they are in progress.

If I do not dwell on the influence of food in this class of cases, and more particularly on the influence of a strict animal diet as suggested by Cutter, it is simply because I have not gathered any experience for myself in this line of treatment. For the same reason—that I wish rather to deal now with methods of treatment of the value of which I have been able to satisfy myself—I pass over the treatment of uterine myomes by means of electricity, and proceed at once to the consideration of their

MEDICINAL TREATMENT.

Here I may at once frankly say, that I know of no drug which on being introduced into the system finds its way to a uterine fibroid, and acts in the way of a solvent on its structures.

1*st. Mineral waters.*—At the same time, I cannot doubt the powerful influence for good exerted by some of the mineral waters, *e.g.* those of Kreuznach, the virtues of which were advocated here by Dr Engelman last session. For I have seen patients who were suffering from such tumours in whom the symptoms were relieved, and in whom the growth of a previously increasing tumour was arrested, if the bulk was not immediately diminished. These mineral waters seem to me to exert some portion of their influence by acting as sedatives to the sexual organs, lessening the activity of the circulation in them, and so reducing the nutritional activity. One can understand how in this way the effects of the chronic inflammation going on in the organs may be removed and a check be given to the further increase of the neoplasm; how even, when the muscular walls of the uterus are disburdened of their inflammatory products they may quietly but continuously begin to take on their function, and contract so firmly around the growth as to favour its disintegration.

2*d. Bromide of potassium and chloride of calcium.*—A similar influence, it is at least highly probable, may be exerted by the bromide of potassium. This drug, which enters largely into the composition of some of these waters, has certainly a powerful sedative influence upon the generative organs; and though, as I have said, neither it nor any other can be regarded as a simple solvent of uterine myomata, I have a strong impression of its value in modifying the conditions that favour their development. But I have long ceased to trust to it alone in their medicinal treatment. In some instances I have administered the chloride of calcium as recommended by Washington Atlee and Spencer Wells, but I have failed to meet a case where the progress of the tumour was sensibly affected by its use; and it is to be remembered that its prolonged administration is not a matter of indifference, as Wells has noticed the premature development of an arcus senilis in patients who were employing it. One of its expected advantages, indeed, is the deposition of calcareous salts among the tissues of the tumour or in the walls of its nutrient artery; but there is no means of controlling their deposition in the desired site, whereas in the case of the bromide of potassium, we have to do with a salt which, however it may act, does not lodge in the system, but is being constantly eliminated, so that I have had patients taking it for many months and even for a year or two without its producing any constitutional effect, if only they were careful to attend to the recommendation to suspend its use during the menstrual week.

3*d*. *Ergot of rye.*—But the drug that most powerfully and unmistakably affects the growth of fibroid tumours of the uterus is the ergot of rye. Its influence on the developed muscular fibres of the uterus naturally led to its employment in cases of fibroid tumours with hypertrophy of the surrounding walls; and the concurrent testimony of many gynecologists puts the action of ergot in the treatment of these growths among the best established phenomena of therapeutics. The preparation, for example, to which I have already referred as having been sent here for exhibition by Dr Watson, was taken from the body of an unmarried female, æt. 52, whose case was brought under the notice of the London Obstetrical Society in 1871 by Dr John Brunton. She had been the subject of a fibroid tumour which reached up as high as the umbilicus, but which disappeared in the course of six or seven months under the administration of full doses of ergot at each menstrual period. When the patient died last summer of disease altogether unconnected with the sexual system, and after she had ceased to suffer from any further hæmorrhages, there was found in the upper part of the uterus and growing from the fundus and anterior wall—as some of you saw—a condensed and partially calcified fibroid of the size of a small mandarin orange. For many years I have been in the habit of treating certain cases of uterine fibroids with ergot of rye during the menstrual period, and bromide of potassium in the intervals, and in many instances with good results. Rather more than a year ago, there came to my ward in the Infirmary here, a woman whom I had had under my care ten years ago in Glasgow, suffering from a fibroid which caused the uterus to rise like a fourth-month organ above the pubis. Under the treatment I have indicated, the tumour began distinctly to diminish in size, and as the patient became freed from her distress, I lost sight of her till she came back bringing with her her old prescriptions. She stated that she had kept well for three or four years, when she began again to suffer from her old symptoms and the re-appearance of a tumour in the lower part of the abdomen. She had gone to live in a distant part of the Highlands, and allowed it to progress till now it filled the abdomen and reached a handbreadth above the umbilicus. On this occasion I kept her under treatment for nearly three months, administering every second day a hypodermic injection of 2½ grains of ergotin, with the result that a slight but very appreciable diminution occurred in the mass. She was obliged to go home sooner than I desired, but she left under promise to return if the tumour began to grow larger, or she began to suffer from any aggravation of her symptoms.

The narration of this case has led me into the statement of the method that I have found to be the most effectual for obtaining the full benefit of the drug. For it seems to me that the doubts as to its efficacy are traceable to one or other of three different causes: 1*st*, The use of an inert preparation of ergot; 2*d*, An imperfect administration of it; 3*d*, An inappropriate condition of the patient. As to the *first*, it is one of the commonplaces of obstetrical therapeutics that quantities of inert preparations of ergot are in all the markets, and that much of the uncertainty as to the value of the drug is due to the employment of powders, extracts, and tinctures which are devoid of all active properties.

Secondly, with regard to the mode of administration: while almost any preparation of a good ergot will give the desired effect, it was a step of immense importance in the satisfactory treatment of uterine fibroids when Professor Hildebrandt, of Königsberg, demonstrated the safety and certainty with which an active dose of ergotin could be administered hypodermically. He showed what my own experience, as well as that of Byford, of Chicago, and others has amply confirmed, that the repeated subcutaneous injection of from 2 to 5 grains of ergotin can be counted on with great certainty to excite appreciable contractions in the walls of uteri in which the muscular fibres have become hypertrophied. The preparation of ergotin which I have found most satisfactory is the same which I brought under the notice of this Society in treating of the complete evacuation of the uterus after abortions.

℞	Ergotinæ, . . .	ʒij.
	Aquæ, . . .	ʒvj.
	Chloral-hydratis, . .	ʒss. M.

Twelve drops of the solution or rather mixture—because the ergotin is partly dissolved and partly suspended—gives a dose of three grains, and this may be regarded as a medium dose, to be administered daily, or every second day, or twice a week after the influence of the drug begins to be manifested.

In making this hypodermic injection, it is necessary to take care, 1st, that the fluid carry with it no small globules of air; and, 2d, that the point of the syringe be carried deeply down through the skin and areolar tissue, right into the muscular strata. Sometimes the injection may be made in the abdominal walls; in most cases they are borne best in the gluteal regions. I cannot understand how the practice has crept into our hospitals, but I observe that when students are called to make such an injection they pinch up the skin and push the point of the needle obliquely through, and occasionally to some distance among the cellular tissue beneath the skin. Now the pinching up of the skin may do good and serve to make the surface somewhat tense; but the needle should certainly always be carried in as perpendicularly to the surface as possible, and straight down with one quick stroke into the muscular tissues. Such a preparation, so introduced, is not liable to be attended with the suppurations which have deterred some practitioners from the continuance of this mode of administration. It is but rarely even that the patients complain of the pain. I can only recall two out of the many patients in whom I have used it, who objected to the frequent repetition of the injection on the score of the local suffering. They may be made daily, or every second day, for several weeks; or after some frequent injections for a month they may be continued once or twice a week for many months without producing any constitutional disturbance.

Cardiac disease does not constitute a contra-indication to its employment. At least one patient, to whose case I have already referred as having got rid of some fibroid mass during a puerperium, was commended to my care chiefly because of the distress she suffered from a cardiac affection. I found, indeed, that she had well-marked valvular disease of the heart; but it seemed to me that her distress was largely due to the presence of a group of fibroid tumours, some of which were subperitoneal, but one at least was intramural or submucous, and associated with pretty free menstrual discharge. The subcutaneous injections were freely carried out in this case without the faintest drawback, and with the result of a lessening of the menorrhagia and a diminution in the bulk of the lower portion of the general mass, along with great improvement in the patient's general health. Again, I have used the ergotin hypodermically in the case of a patient who is the subject of chronic asthma and bronchitis with nothing but satisfactory results.

But there remains the *third* point as to the appropriate cases. I believe Hildebrandt has correctly indicated the condition most favourable for the use of ergotin in stating that the tumour must be intramural or submucous; in other words, it must be surrounded by layers of muscular fibre, sufficiently developed to be capable of being excited to contraction, and sufficiently powerful to exert some degree of pressure upon the body in their embrace. For the beneficial action of the drug in such cases depends upon its property of stirring and keeping up continuous contraction in the unstriped muscular fibres of the uterus, the effect of which is in some cases to push the compressed tumour more rapidly towards the uterine orifice, and so to favour its extrusion from the cavity; in others, so to interfere with its nutrition that it ceases to grow or even begins to wither, probably in consequence of fatty degeneration being set up in its fibres. The ergotin perhaps exerts a secondary influence in the direction of cutting off the nutritive supply of these bodies by tending to cause contraction in the walls of the uterine arteries, and so lessening their calibre. Such an influence is not to be denied, and although it is altogether subsidiary towards the elimination of these fibroid tumours, it makes the employment of the drug very serviceable for the alleviation of one of their commonest symptoms, viz., the excessive losses of blood.

Sometimes, I have said, the hypodermic injection leads to the rapid extrusion of the tumour. This occurred in the case of a poor woman whom I saw with Dr Balfour of Portobello, and who came into my ward to be treated. She had long suffered from pelvic pains and uterine hæmorrhages, and had got into the habit of taking opium freely and frequently. The fundus uteri reached more than half way between pubes and umbilicus, and the sound passed four inches into the uterine cavity. There was a degree of tympanitis and abdominal tenderness that necessitated the administration of chloroform to enable us to make a satisfactory examination. Under the use of the hypodermic injections of ergotin the discharge at first diminished, then a fetid discharge began to escape. Frequent examinations even with the finger pained the patient, who was a virgin, æt. 48; but after two months' almost daily use of the injections a sloughy mass was found to have been expelled into the vaginal canal, which was detached from the uterus by means of the écraseur. It was so soft and pulpy that I thought at first the diagnosis as to the nature of the tumour must have been incorrect; but on more careful examination it was found to be a fibro-myome in a gangrenous condition, many of its fibres breaking down, and some of them crowded with fatty particles. The patient recovered health to a great degree, notwithstanding that she had an attack of pleurisy before she left the Infirmary, and the tympanitic state of the abdomen never disappeared.

In other cases where the tumour has not been expelled, it has become reduced in size. Two years ago I saw, with Dr Cullen of Airdrie, an unmarried lady, 35 years of age, who had become very anæmic from excessive losses of blood. She had an intramural fibroid of the size of a child's head. The hypodermic injections were carried out at somewhat lengthened intervals, but kept up for many months by a sister, as they lived at some distance from their doctor; and when the patient came to see me last spring her discharges were less profuse, her tumour much reduced in size, and her general health greatly improved. I might make almost the same remarks regarding a very similar case which I saw some nine months ago with Dr Peter Stewart of Glasgow; only the tumour in this case was originally larger and more irregular, and wedged more firmly into the pelvis, and the diminution in size is not yet so pronounced. In a note which I had the other day from Dr Stewart, he tells me he is using the ergotin in another case of fibroids with promising results.

In certain cases, the beneficial action begins to make itself sensible to the patient by relief of her symptoms before there is any distinctly appreciable reduction in size of the mass. Moderation of the often exhausting hæmorrhages is a frequent observation. But sometimes other symptoms thus soon get relief. A lady, for example, who was sent to me by Dr Leith of Comrie, in addition to the weakness caused by menorrhagia, was suffering from symptoms of pressure on the bladder. The uterus, occupied by a fibroid tumour, was about the size of a large fist, movable, and with a patulous cervix. I administered an ergotin injection, and advised its repetition two or three times a week. In six weeks the patient returned, having experienced great relief from her pressure symptoms, and gathering strength as she had had less loss of blood. Still I could not satisfy myself that the uterus felt much lessened in bulk. After the continued use of the injections, made chiefly by the patient's husband for two months longer, the diminution in the size of the uterus was very perceptible, and the patient's general condition was still improving.

In two instances of unmarried ladies where the tumours were subperitoneal, but where there was considerable enlargement of the uterus, and a degree of menorrhagia that would itself have constituted an indication for the use of ergot, I have observed that under the ergotin injections the tumours, without sensibly decreasing in size, became, in the course, in one, of three, in the other, of five months, more superficial.

Lastly, I have noticed that in several instances, where the tumour was of large size and where the ergotin-injection treatment has been instituted, a growth, which up till that time had been steadily increasing in size, has had such an arrest laid upon it that it ceased to enlarge. Two ladies, both unmarried, whose history is illustrative of this occurrence, are at this moment in my mind. In one, I had the opportunity of witnessing and watching the slow but steady growth of a fibroid during several years, despite the use of the Kreuznach waters, bromide of potassium, chloride of calcium, and internal administration of ergot. Since, about eighteen or twenty months ago, however, she had a series of ergotin injections carried out for some two months, there has been no increase in her girth, though her general health is better, and her limbs are stouter. In that case, the period of life may have favourably influenced the condition, as she ceased to menstruate a few months after she had begun this treatment. But in the other case, the patient is still only 35, and though menstruation goes on regularly the flow is less, and there has been no increase in her abdominal measurements since more than a year ago she first began to use ergotin injections.

Gentlemen, I might multiply the histories of patients suffering from fibroid tumours of the uterus, whom I have seen benefited by the adoption of Hildebrandt's treatment; but I fear I have already taxed your patience. In view of the doubts that are still expressed in some quarters, however, I feel that it is quite worth while to have adduced these illustrative cases, which I hope will help to convince you, as they have convinced me, that the hypodermic injection of ergotin is a therapeutic agency of the first importance in the treatment of fibroid tumours of the uterus; and that where we find such a tumour causing much hæmorrhage, seated in a uterus with a patulous cervical canal, and surrounded by some layers of well-developed muscular fibres, we may have recourse to its employment with a well-grounded expectation of seeing the symptoms relieved and the tumour greatly reduced in size, or it may be expelled altogether, or at least brought more speedily within the sphere of

SURGICAL TREATMENT.

If I may now ask your attention to the operative measures to be employed for the removal of fibroids, I shall again leave out of consideration some important proceedings, such as the producing of a slough, and so procuring the disintegration of the growths, as proposed and practised by Dr Greenhalgh, with the actual cautery, and the extirpation of the uterus or portions of it through an opening made in the abdominal walls—an operation which has now been pretty frequently performed, which I have myself witnessed at the hands of two different operators, and which doubtless has a triumphant future before it. I wish to speak rather, and that very briefly, of the operations that will always be applicable to an immensely larger number of cases, where we have to do with tumours not so imposing in their size, but important from the frequency of their occurrence, and the urgent call they often make on operative skill.

1*st*, *Torsion.*—The first method that I always think of employing for the removal of an intra-uterine fibroid to which I have got access, is the simple twisting of it so as to loosen it from its attachments. Whether it be pediculated or sessile, large or small, as soon as it can be firmly grasped with the fingers or with a vulsellum or pair of abortion forceps, it should be twisted steadily and firmly round and round in the same direction until its attachments are felt to yield. It is astonishing sometimes with how friable a neck even a large fibroid still hangs to the uterus, and with how loose a base a broadly sessile one may be imbedded in the wall. The bleeding that takes place in such cases is but little, and soon comes to an end. I have seen a fibromyomatous tumour passing from the uterus into the vaginal canal of such large size as to baffle all attempts to reach its base or pedicle even when the four fingers of the hand were pressed into the cavity, and yet the pedicle gave way when the great mass had been rotated several times in one direction. A considerable gush of blood took place at the moment that it was felt to be set free, but no further escape took place during the two hours and more that I spent in breaking down and extracting the growth through the narrow outlet.

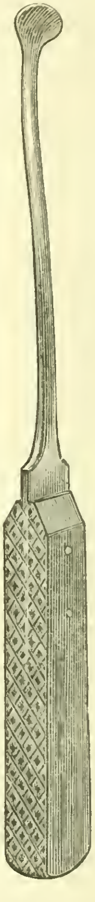
2d, Cutting, Crushing, or Scratching.—When the pedicle or base will not yield under torsion, they must be divided by some cutting, crushing, or scratching instrument. The cases are now pretty numerous in which I have removed such bodies with the polyptome. For its satisfactory employment, however, the tumour must have a distinct and rather narrow neck, and in any case it is apt to cut obliquely and may leave a fragment behind. This, of course, usually atrophies; still one would rather have a smooth surface left. In one or two cases where the pedicle was more easily accessible from below I have divided it with scissors.

In several, where I apprehended hæmorrhage, I have used the écraseur, and always take the instrument to any case of removal of a fibroid. It is not always easy of application, however, and ocasionally when it is at work dividing a fibroid of firm texture, it disappoints you by giving way.

I fancy most gynecologists who have had much to do with such cases have sometimes felt the want of an instrument for working their way through the pedicle or base of these bodies. So one reads in the histories of the use of the point of a bistoury, the blade of which is wrapped in lint; or the handle of a scalpel or such like. I see from the number of the *American Journal of Obstetrics* that has just come to hand, that Professor Gaillard Thomas showed to the New York Obstetrical Society an instrument which he uses for cutting through the base of sessile fibroids. It resembles a spoon on a long handle not unlike one of Simon's curettes, only the edges, instead of being simply sharp, are toothed or serrated, so as to more easily cut through the tissues, and it seems well adapted for its object.

In removing these bodies, I have sometimes been able to make my way deeply through the base with the nail of the forefinger alone. But there always meet one some strands of fibre that are too tough to be thus torn through, and besides the nail bathed in the blood begins to soften, till one wishes that it were made for a little of steel. After trying curettes of various kinds, I have come for the last eighteen months or so to make use of the instrument which I now show you, and which I find immensely serviceable in the digging out of fibroids and other new growths in the uterus. The flat sharp point serves as a substitute for the nail, the edge of which it resembles in size; the slightly curved stem is long enough to be easily carried up to the fundus uteri, and so slender as not to occupy much space in the canal; the handle is broad and square, to give a good hold and purchase in the working of it, and roughened on all sides except on the surface towards which the sharp edge of the instrument is directed. When it is being used, the tumour is sometimes dragged down with a volsellum by an assistant, particularly when it is very mobile. At other times I have used it where the uterus was simply steadied by pressure from above the pubes. The point is guided to the root of the tumour by the index finger of the right hand, which closely follows it in its track through the severed tissues, the handle being worked all the while by the left hand. It is thus an instrument of extreme simplicity and as safe in its working as the nail of the finger, for which it is a substitute.

One of the patients, in whom I first employed it, had a history which presents several points of unusual interest. She was a widow lady, 60 years of age, who brought me a letter from Dr Mackenzie of Kelso, stating that she was the subject of a pelvic tumour, that she had been operated on by Sir James Simpson ten years previously for some uterine affection, probably a polypus, that she had at that period been for some time in a lunatic asylum, and that again she was becoming the subject of mental derangement. The mental malady was clear enough. The old lady was under the constant apprehension that something was to happen to her, and she would pass an hour at a time in screaming out. But she attributed all the distress herself to the swelling, which was very perceptible in the lower part of the abdomen, reaching up to within two inches of the umbilicus. This was found to be the uterus enlarged with what I took to be, from its firm consistence, the vascular bruit, and other characteristics, an intra-uterine fibroid. She was extremely anxious to have the tumour cut out. This I did not feel warranted in undertaking to do; but as the case seemed a fair one for the hypodermic injections of ergotin, I commenced their use every second day. During six weeks that I had her under treatment here, I could perceive that the drug was exerting an influence; the tumour began to sink in the abdomen; the os uteri began to expand; her mental condition improved slightly, and she went home. For some weeks, by some mistake, atropin injections were administered instead of ergotin. By-and-by, the mental symptoms getting more urgent, she was put under the care of Dr Tuke in the Saughton Asylum, where again I had the opportunity of watching the progress of the case. Dr Tuke's assistant, Dr Bower, carried out the injections very carefully for a few weeks till the expansion of the os and the descent of the tumour had so far progressed as to render the interior of the uterus



Nail-curette, *half-size.*

easily accessible to the exploring fingers. Partly from the deterioration of the system from imperfect nourishment,—for she made a difficulty about her feeding,—and still more from the drain that for some months had been taking place from the uterus, the patient had become very feeble, so much so that Dr Mackenzie had great doubts as to the propriety of attempting the removal of the growth. It was attached to the fundus and posterior wall of the uterus over a widely extended surface; and I was disappointed to find that it was not simply imbedded and encapsuled, but closely incorporated at some parts with the muscular coat. It was out of the question to apply an écraseur, the mass could not be twisted out, and I do not know how I could have got it detached from its place, but for the help of the nail-like curette. By having it dragged upon with a strong volsellum by my friend Dr Horatio R. Storer of Boston, who was present, and by patient determined scratching through of all resistent textures, it was severed from the uterus and removed. Seeing that there was such an intimate union of it with the uterine walls, I was not surprised to find that the mass, though mainly myomatous in structure, presented at some points sarcomatous elements. The patient rallied from the operation and recovered her strength to a very remarkable degree. As I had anticipated, however, from the anatomical structure of the tissues, the tumour was reproduced. From time to time sloughy masses were expelled, which presented a purely sarcomatous character, and some twelve months after the date of the operation the patient died under an excessive loss of blood.

I had intended to cite some other cases of a more ordinary character where this instrument has stood me in good stead, but I forbear. Nor do I dare to prolong this address by bringing before you, as it was in my mind to do, some observations on the enucleation of fibroids, or the incision of their mucous covering, or the division of the cervix uteri. The first of these operations I regard as not only justifiable, but sometimes as clearly called for. The second and the third are sometimes required as preliminary steps to the first; but apart from this, sometimes they have approved themselves as valuable procedures in checking the hæmorrhage and favouring the spontaneous expulsion of the tumour. On some other occasion I may have an opportunity of treating of these operations. Meantime I close.

I cannot sit down, however, in the chair which I fill for the last time to-night, without thanking you once again for the unanimous kindness which raised me to such an honourable seat, and for the unvarying courtesy which has rendered my two years' incumbency a period of unalloyed delight.

ARTICLE II.—*On Two Heart Cases which presented a Rare Form of Irregularity.* From Dr G. W. Balfour's "Clinique." By CHARLES S. ROY, M.B.

WRITERS on heart disease have frequently maintained that the close connexion of the muscular fibres forming the right and left heart ventricles render their independent contraction impossible. It is, however, a fact, well known to many vivisectors, that the ventricles in animals, whose heart has been exposed for observation, do not unfrequently, shortly before they finally cease to beat, show a certain degree of independence of action—most usually the right continuing to contract rhythmically, while the left remains motionless, or contracts less frequently than its fellow. The two following cases exhibited the same partial independence of the ventricles in the human subject; not, however, here forming a prologue to a speedy *exitus lethalis*, but appearing when the patients could look forward to at least some months of existence.

The cases came under my observation while I was acting as *house-physician* to Dr G. W. Balfour, who has kindly given me permission to publish my notes and tracings.

CASE I.[1]—Beatrice Matherson, æt. 57, single. Admitted to Ward XIII. on 30th November 1875. (The patient was very deaf, and a complete account of her previous ailments was not obtainable.) Stated that, twenty or thirty years ago, she suffered from a severe inflammation of the front part of the neck, for which leeches were applied. Since then she has scarcely ever been entirely free from cough and shortness of breath on exertion. She has also had frequent vomitings of blood, but not during the last two or three years. The increasing want of breath, cough, and the more recently appearing swelling of the legs, have latterly obliged her to remain in bed. Never had rheumatic fever.

Status Præsens.—Patient is emaciated. Face, anxious. Orthopnœa. Legs, œdematous. Temp. 98·6°; p. 90; r. 44.

The dyspnœa which is present is much increased by very slight exertion. Right half of chest is flatter and expands less than its fellow. Semi-circumference at the level of the sixth rib = R., 13½ in.; L., 14 in. Percussion note all over right lung is higher in pitch than over the left, the difference being most marked behind. The breathing over the right side is harsh, with prolonged expiration, and is accompanied posteriorly and at anterior base by medium fine crepitation. On the left side the vesicular murmur is also harsh, but less so than on the right; on the left side also there is crepitation posteriorly. Radial pulse is somewhat irregular, both in time and force. Exterior jugulars pulsate, but the valves are competent. Apex beat of fair strength is felt between the sixth and seventh ribs, 3½ in. to left of midsternum. Deep dulness of the heart measures transversely 6 in., there being 4 in. of dulness to the left, and 2 to the right of the middle line. A murmur accompanies the first sound, and is loudest at the apex. A systolic murmur, which is heard over the right ventricle, differs somewhat in character. Liver dulness in mammillary line 4 in. Urine—12 oz., dark, and gives ¼ albumen on testing.

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[1] Dr Balfour has already given a short communication on these cases to the Ed. Med. Chir. Soc. *Ed. Med. Jour.*, June 1876, p. 1142.

The records, taken during the three and a half months which the patient spent in hospital, for the greater part, do not bear on the special phenomenon which leads me to report the case, and are too long to be given in detail. I summarize, therefore, briefly. She suffered five or six times during her stay from pulmonary embolism with the usual symptoms and signs, viz., sudden localized pain, with increased dyspnœa. With care, circumscribed dulness on percussion was usually found, and, 24 or 48 hours later, the sputa contained small quantities of blood. Occasionally she was troubled with intense hyperæsthesia of the skin of the front of the chest, and indeed was never entirely free from a slight degree of this. More than once she suffered from obstinate vomiting, not to be allayed by the ordinary means. After being in hospital about three weeks, and being treated with digitalis (10 m. of the tr. every 4 hours), the pulse, usually 80 or 90, was found suddenly to have fallen to 44, having been 86 at the previous evening visit. It was of fair strength and tolerably regular. On further examination the other cardiac signs were found to have undergone a very marked change. The jugulars were now widely distended and pulsating strongly, not, however, synchronously with the carotids, but alternating with them in their beats, in such a way that the carotid pulse was accompanied by a slight venous pulse, and followed after a short interval by a strong venous pulsation coming alone. There was—

1st. Simultaneous pulse in the carotids and jugulars, that in the latter being very weak.

2d. After a short pause, a strong jugular beat without that of the carotid.

Then came a longer pause than the first, followed by the synchronous arterial and venous pulse. The tracing G, taken from the jugular bulb, illustrates this better than any description can do. The smaller of the two waves there represented was synchronous with the arterial pulse. The larger succeeding wave came without an arterial beat. The brachial artery and vein showed the alternating character of the pulsations even better than the vessels of the neck, as the pulsations in both were visible. The apex beat was also modified in rhythm, a strong beat corresponding to the arterial pulse, while a weaker followed and corresponded to that in the veins. The tracing D, taken from the apex beat of the other patient, where the phenomena were the same, illustrates the inequality of the succeeding impulses, and the bigeminal character of the rhythm. The heart was beating at 88, the pulsations in the radial being 44. The first of the twin apex beats was more pronounced over the apex, while the second was strongest over the right ventricle. Each impulse was accompanied by a first sound and a murmur, and followed by a second sound. The sound and murmur accompanying the first twin beat were loudest over the apex; those with the second twin beat were heard best at the lower end of the sternum. The second sound of the first of the twin impulses was loudest at the aortic area; that of the second twin beat, over the pulmonary area.

After this changed rhythm had existed for about half an hour, it suddenly gave place to the usual rhythm, and the signs were the same as those noted on admission. Patient stated that, while the above described irregularity was present, she felt that something unusual was going on in her chest, causing her some uneasiness but no pain. She had occasionally experienced the same sensation for several months before. While in the Royal Infirmary this irregularity returned often enough to enable me to verify completely the notes first taken, and to obtain numerous tracings.

Frequently, by pressing over the left carotid region,—a proceeding which caused some pain,—I was able to change the rhythm of the heart from its usual to its irregular beat. Later on, however, pressure on the indicated spot ceased to produce any appreciable influence on the rhythm. The rest in bed and the digitalis at first produced something of their usual effect, but afterwards she got worse and worse, and died on 18th March 1876.

Sectio Cadaveris, condensed from Dr Wyllie's report.—Heart much enlarged. Left ventricle somewhat hypertrophied, its wall measuring $\frac{3}{4}$ in. in thickness. Auriculo-ventricular orifices much enlarged, the right admitting seven, and the left four fingers. The mitral and tricuspid valves not diseased. Advanced sclerosis of aortic wall with calcareous plates. Over the right lung were dense old pleuritic adhesions, and the lung tissue was dense and dark in colour, with here and there patches of recent pulmonary apoplexy. Liver weighed 2 lb. 10 oz., congested and somewhat fatty. Kidneys, each, 5 oz., congested and slightly contracted.

CASE II.—Euphemia Lawson, æt. 40, widow, in service as cook. Admitted 9th February 1876 to Ward XIII., complaining of shortness of breath, pain in the left side, and swelling of the legs.

Patient has been twice under Dr Balfour for dilatation of the heart due to "heart-strain." The case is of much interest from the remarkably complete disappearance, under treatment, of the local signs and general symptoms from which the patient suffered A report of her case is given by Dr Balfour in his recent work.

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[1] *Clinical Lectures on Diseases of the Heart.* By G. W. Balfour, M.D., etc. London: 1876, p. 173.

The circumstances of the patient obliged her to return to service, and again, for the third time, her heart gave way from work too hard for her powers.

Never had rheumatism, and enjoyed good health up till eleven years ago, when, while at Woolwich, she had a severe attack of ague.

Status Præsens.—Expression anxious. Muscles soft. Considerable emaciation. Pulse small and weak, with occasional irregularity. Has often palpitation and pain in cardiac region. External jugulars dilated and pulsating. Venous valves incompetent. The "Angulus Ludovici" exaggerated to an unusual extent. Diffuse, firm, apex-beat in fifth and sixth intercostal spaces, $3\frac{3}{4}$ inches to left of midsternum. Transverse deep heart-dulness extends at fourth rib from $1\frac{1}{2}$ inches to the right to 4 inches to the left of the middle line. Upper margin of dulness, in the left parasternal line, at the third costal cartilage. A systolic murmur with part of a first sound audible over whole cardiac area, with its maximum intensity at the apex. The murmur heard on the tricuspid area has an easily distinguishable difference in character. Pulmonary second sound much accentuated. Percussion over the lungs gives a normal note everywhere. Expectorates a large quantity of sero-mucous fluid. Liver-dulness $4\frac{3}{4}$ inches.

Treatment.—

℞ Ammon. carb. ʒj.
Inf. digitalis ℥vi. s.
Sig. A tablespoonful thrice daily.

The patient was two and a half months in the Infirmary, and, as before, I prefer to summarize my notes. Her ailments were mostly due to repeated embolisms, both in the pulmonary and systemic arteries. The history of the case records that she suffered from a perfect "shower" of such plugs. The pulmonary embolisms were in two cases the cause of localized pleuritis, which at one time raised the temperature to 103°. The clots in the systemic arteries chiefly lodged in the spleen and kidney, but a few days before her death the brachial artery was occluded at its lower end by an embolus. The temperature and the quantity of urine varied incessantly from such causes. It was about a month after her admission that the same form of irregularity which was present in the former case first showed itself. It came with the same suddenness, and resembled in detail so closely that presented by Beatrice Matherson, that I need not enter into the details for a second time. The sphygmograms A and B show the usual pulse, and that when the irregularity was present, while the cardiograms C and D show the corresponding change in the heart-beat. In E the pulsation of the jugular bulb is seen. It is noted that the irregularity in this case came and went without apparent cause, nor was it possible to produce it here by pressure over the carotid of either side, though here also pressure on the left carotid caused unusual pain. Patient also occasionally suffered from hyperæsthesia of the skin of the chest, and to a lesser degree of that of the limbs. Twice she suffered from uncontrollable vomiting, lasting several hours. The ever-recurring embolisms gradually reduced the patient to the last extreme of misery, from which she was relieved by death on 29th April 1876.

Post-mortem.—I give Dr Wyllie's report, as far as concerns the heart, in full. "Heart enlarged, weighing 1 lb. 2½ oz. Right auricle and ventricle were much dilated, and the tricuspid orifice was enlarged, admitting eight fingers. The auricular appendix was filled with a thrombus, which was evidently somewhat old. It was adherent at its periphery to the endocardium, and its centre was partially reduced to a soft yellow pulp by fatty degeneration. The visceral pericardium covering the appendix was white and opaque from chronic inflammatory thickening. The left auricle and ventricle were considerably dilated. The muscular wall of the ventricle was slighty hypertrophied, measuring $\frac{5}{8}$ inches in thickness. In the auricular appendix of the left auricle were several small gray thrombi about the size of peas. In the cavity of the ventricle there were also a number of thrombi, and two of them of large size, being respectively that of a walnut and of a filbert. These were of a dirty-gray colour and firm consistence. They presented a reticulated arrangement, rather delicate, of the fibrin superficially, and, on being cut into, the larger of the two was found to present a collection of fatty matter in its centre near one extremity, and a serous cyst near the other. The mitral orifice admitted four fingers; cone diameter, 1·55 inch. The mitral and aortic valves presented atheromatous thickening, but otherwise natural."

Lungs.—Pleuritic adhesions on both sides. Fibroid induration of posterior and lower half of right lung. At upper part of indurated portion a wedge-shaped embolic infarction. *Left Lung.*—In inferior lobe, a large recent pulmonary apoplexy. Spleen and kidneys presented each several cicatrices of embolic processes.

The clearness and sharpness of the signs presented by these two cases, together with the fact that other well-authenticated cases are to be found in medical literature, render it superfluous for me to use arguments to prove that this form of irregularity can only be explained by a more or less independent action of the two ventricles. Before referring to the few analogous cases which have been reported, I may call attention to a slight difference in the form of the irregularity which these two patients presented. A comparison of the tracings E and G, both from the jugular bulb, the former from Case II. and the latter from Case I., shows that they have in common two large elevations corresponding to the twin heart-beats. It will be seen, however, that in G, the first elevation, that synchronous with the first beat, is much lower than the corresponding elevation in E, or than the elevation which succeeds it, and corresponds to the second twin-beat. The cause of this can only be sought for in an inequality of the successive contractions of the right ventricle in Case I. So that the right ventricular rhythm in this case presents a triple periodic deviation from the normal.

1st. It is irregular as to time, having the bigeminal rhythm.

2d. It is irregular as to force, a weak being succeeded by a stronger beat in regularly-succeeding pairs.

3d. It is irregular as to its relation with the contractions of the left ventricle.

In Case II. the second character of the irregularity is wanting. The further difference in the details of the two tracings E and G may satisfactorily be accounted for by the existence of a higher vascular tension and greater insufficience of the tricuspid valve in Case I., resulting in a tracing which follows more closely the typical ventricular curve made known by Marey and Chauveau. And here I may observe that, by the aid of a delicate recording instrument, tracings from the pulsating veins in cases of tricuspid insufficience are capable of giving valuable information as to the condition of the auricle and the degree of insufficience of the valve. I hope, in a future communication, to describe such an instrument, and to demonstrate the diagnostic value of such venous tracings. Leaving the action of the right heart, that of the left may be briefly noticed. The pulse of the carotid and radial beats only with the first of the twin cardiac impulses; but the tracing B shows, in the descending line, a slight rise which I am inclined to ascribe to a small wave sent out from the left ventricle at the time of the second twin contraction. The sphygmograms given by other observers from analogous cases render such a supposition probable, in which case, the same form of irregularity with its triple character would hold good for the left ventricle as well as for the right.

The possible occurrence of an independent action of the two ventricles is mentioned by various authors, without, however, the well-characterized irregularity here treated of being observed by them. Thus, among others, Littre[1] and Berard[2] remark that, in cases of great irregularity, the two ventricles seem to lose, in some degree, their synchronism of contraction. Da Costa,[3] in cases of what he calls "irritable heart," but which are now mostly termed "heart-strain cases," mentions that the heart sometimes beats twice for one pulsation at the radial artery. A case also is recorded by Barr[4] where there were two heart impulses for each pulse at the wrist; and in this case I imagine the irregularity was the same as in the above-reported cases, except that there was no venous pulsation—the absence of which would very materially obscure the nature of the case. Such cases remind us of Laennec's[5] "intermittences fausses," where, of two consecutive heart impulses, only one is represented by a pulsation of the radial. This author also describes a form of irregularity which seems to be closely related to the form in question. In considering his remarks, it must not be forgotten that he believed the second sound to be produced by the contraction of the auricles. He writes,[1] "It sometimes happens, though rarely, in palpitation of the heart, that each contraction of the ventricles is followed by several successive auricular contractions, which, joined, do not take up more time than one ordinary contraction. I have sometimes counted, in these kinds of palpitation, two pulsations of the auricles for one of the ventricles; at other times there are four; *mais le plus souvent le nombre de ces contractions successives et correspondantes à une seule contraction des ventricules est de trois.*" One would feel inclined to put this triple second sound down to a variety of reduplication such as is common enough, were it not that the author mentions three sounds as being the more common, and from his mentioning, further on, the difficulty of deciding in the case of three sounds following a heart-beat whether they are caused by a triple "auricular" contraction or by two ventricular contractions following one another closely.

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[1] *Dict. de Med.*, 2d edition, tome viii.

[2] *Ibid.*

[3] *American Journal of Medical Science*, 1871.

[4] *Dublin Journal of Medical Science*, 1876.

[5] *Traite de l'Auscultation Mediate*, 2d edition. Paris, 1826. Tome ii. p. 472.

The first observer, however, who clearly demonstrated the existence of a well-defined form of irregularity such as the two foregoing cases presented, was Charcelay,[2] who gives three cases exhibiting various differences in the character of rhythm present, most of which have also been found by later observers.

The forms of irregularity which he found were—

Case I. (*a*) Two contractions of the right with only one of left (most usual).

(*b*) Where a synchronous contraction of both ventricles was followed by a contraction of the right ventricle alone, that being followed by one of the left alone, after which came again the synchronous systole of both ventricles.

(*c*) Two contractions of the left with only one of the right ventricle.

Post-mortem.—Hypertrophy without dilatation; tricuspid insufficience; mitral orifice and valve normal; double pneumonia.

Case II.—The irregularity observed was of two varieties.

(*a*) Two contractions of the right with only one of the left ventricle (most common).

(*b*) Two contractions of the left with only one of the right ventricle (rarely).

No autopsy.

Case III.—Here jugular pulsation was not present. There were two heart-beats with sounds, the first only being accompanied by an arterial pulsation.

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[1] Laennec, *l. c.* p. 471.

[2] Mémoire sur plusieurs cas remarquables de défaut de synchronisme des battements et des brüits des ventricules du cœur. Par M. Le Dr Charcelay. *Arch. Gen. de Med.*, 1838, tome iii. p. 392.

Post-mortem.—Contractions of the segments of the mitral and tricuspid valves (insufficience of the valves and stenosis of both auriculo-ventricular orifices).

More recently three cases presenting occasionally the same form of irregularity have been recorded by Leyden.[1] His first case is apparently one where the ventricles alternated in their contractions, each apex-beat being produced by one ventricle alone; but as no venous tracing is given, it is possible that the right ventricle may have taken part in the first twin-beat, as in Beatrice Matherson's case, where the two sides were at first believed to alternate till the tracing cleared up the question.

Professor Leyden's two later cases had two contractions of the right, with only one of the left ventricle, the latter corresponding to the first twin apex-beat—the same form which Charcelay found to predominate in his first two cases.

In the first case recorded by Leyden, the signs pointed to aortic and possibly also mitral stenosis with tricuspid insufficience. The second case showed insufficience of the mitral and tricuspid valves, and the third mitral insufficience with some stenosis of the orifice. Four cases of this irregularity are recorded by Fraentzel,[2] in which two twin heart-beats were accompanied by one carotid beat, corresponding to the first of the heart-impulses. There is no mention of a venous pulsation in any of these cases, but Professor Fraentzel notes that the sounds of the second twin heart-beat, that, unaccompanied by a carotid-pulse, were not weaker than those of the preceding heart-impulse.

The pathological conditions present were—

Case I. Large pericardial exudation.

Case II. Dilatation and hypertrophy of the right and left ventricle without valvular affection.

Case III. Aneurisms of the ascending aorta with aortic insufficience. Hypertrophy of both ventricles, especially of the left. Compression of both *vagi*.

Case IV. Great dilatation of both ventricles with slight hypertrophy; valves unaffected. Thrombi in both ventricles.

Finally, in August of this year, Schreiber[3] has given several interesting cases resembling more or less closely those already given. The greater part of his cases recovered, and it is to be noticed that he, as well as Fraentzel, lays great weight on the connexion between this form of irregularity and the pulsus bigeminus.

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[1] Virchow's *Archiv.*, xliv. s. 365; and Zwei neue Fälle Ungleichzeitiger Contraction beider Ventrikel, Virchow's *Arch.*, bd. lxv., H. 2. s. 153.

[2] *Charité Annalen*, 1874 and 1875 (published 1876 and 1877).

[3] Ueber den Pulsus Alternans, etc., von Dr J. Schreiber, *Arch. f. Exp. Path. und Pharmacologie*, bd. xvii. s. 317.

The question naturally arises, whether or not this special variety of irregularity be of any diagnostic value, or can be held to indicate any special heart affection. Professor Leyden, from the fact that his three cases suffered from mitral insufficience, was led to conclude that this was the dominating factor in its production. He gives a very ingenious theory as to the mechanism by which mitral insufficience can produce this irregularity, and considers that the right ventricle, contracting twice as often as the left, compensates, in some measure, the insufficience of the mitral valve. The propositions of the distinguished Berlin professor seem at first sight to explain satisfactorily the nature of the phenomena, but a consideration of the analogous cases reported by others shows that neither is mitral insufficience constantly present, nor does the form of the irregularity admit any theory of a compensating action of the right ventricle, which, as in Charcelay's cases, may beat at half the rate of the left. On the other hand, cases of mitral insufficience and relatively increased pressure in the right ventricle are daily occurrences, while this form of irregularity is certainly rare, though perhaps less so than is generally believed: so that it is scarcely possible to accept a mechanical cause such as that which Leyden has advanced. But if mitral insufficience be not the only and the direct cause of this irregularity, it has certainly something to do with its appearance, as an examination of the above noted cases will show. But it must be remembered that, as the compensating hypertrophy begins to fail, irregularity is rarely absent in mitral cases, whether of simple insufficience, or of stenosis combined with insufficience, as is usually the case. In such conditions the irregularity assumes many forms,—either the *delirium cordis* which often predominates, or intermissions, or the pulsus bigeminus or trigeminus, or a combination of some of these. They all have for their original cause the mitral insufficience, but the special form assumed by the irregularity seems to be governed by some other factor.

The observations of Klebs[1] and of Hofmokl[2] on the heart rhythm of dogs, submitted to experimental conditions, might seem to favour the view advanced by Professor Leyden. Klebs, after causing mitral insufficience by his *valvotome*, and allowing the dog to recover from the shock of the operation, took tracings from the right heart and the femoral artery simultaneously, and found that while the left heart beat at 117, the right beat at 220 per minute. It is doubtful if the well-characterized form of irregularity which we here treat of was present in this case, or only a periodic irregularity, as no tracings are given. The conditions, however, under which the observation was made, presented many possible causes of error. When the lesion of the mitral was produced both carotids were opened, the one for the kymograph canula, and the other for the *valvotome*, and in removing the latter a piece of the artery 5 centimetres long was torn away, the wound healing by granulation. Under such conditions, it is scarcely possible to believe that the vago-sympathetic cord could escape all injury. Besides, when the tracings were taken, a glass tube was passed by the jugular vein into the right heart. To assume, in this experiment, that the unequal contractions of the ventricles were simply and solely due to the valvular lesion seems scarcely justifiable, considering that clinical experience clearly enough teaches us that, in simple mitral insufficience, such an independence of the ventricles is a rare occurrence. Hofmokl also found the right heart beating faster than the left when the pressure in the right ventricle was increased, that in the left being reduced. His tracings show that the heart beats with considerable regularity in this abnormal manner. But here the conditions were even more complicated than in Klebs's observation. The dog was curarized, the vago-sympathetics were cut, and then the artificial respiration which was first used was stopped, causing asphyxia. With so many factors present it seems illogical to choose the changed pressure as the immediate cause of the new rhythm, seeing that the others also were necessary for its production. Moreover, Schreiber, who repeated the experiment under the same conditions, was unable to obtain the results given by Hofmokl.

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[1] Plager *Medicinische Wochenschr.* Jahrg. 76. S. 9.

[2] Stricker's *Medicinische Jahrbuch*, 1875.

The opinion given by Schreiber and Fraentzel is, that the form of irregularity is to be considered as a variety of the "pulsus bigeminus." I cannot see that we are any wiser from such an explanation, and I am inclined to believe that it is giving an importance to the pulsus bigeminus which it by no means possesses. Traube[1] brought the "twin pulse" into prominence by claiming for it an important prognostic value as presaging a speedy lethal termination of the disease in which it showed itself, by attempting to show that it was due to a special definite condition of the vagus, viz., paralysis of the spinal part of the inhibiting nervous system with excitation of the cardiac part. Since, however, later observations have shown that the mechanism given by Traube of the production of the pulsus begiminus is more than doubtful, and that it possesses no value whatever as a lethal sign, seeing that cases where it is observed frequently enough end in recovery, it will be seen that this twin pulse loses its importance as a "landmark" among the forms of irregularity. It would, therefore, be quite as rational and as useful to call the form of irregularity which we are considering an *abart* of the pulsus intermittens, or a variety of the simple aperiodic irregularity of the heart, as it is to call it a modification of the pulsus bigeminus, seeing that it is undeniably a form of intermission, and that it is closely related to simple irregularity which, in most of the cases recorded, immediately preceded its appearance. I willingly admit, however, that it has a close relation to the pulsus bigeminus, as indeed it has to the other forms of irregularity.

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[1] *Gesam. Beitrage* and *Berlin Klinische Wochenschrift*, 1872. Ein Fall vom Pulsus bigeminus nebst bemerkungen.

One other bearing of the question must be considered, viz., the influence of digitalis in causing this form of irregularity. In most of the cases recorded, as in my own two, it did not appear until after the patient had been treated by digitalis for some time. The observations of Böhm [1] on the effect of digitalis on the frog's heart, seem to have a direct bearing on this question. This observer found that sometimes in the "digitalis heart" the tracings showed a typical bigeminal rhythm,—a fact which has been verified by many observers both for the hearts of cold and warm blooded animals.

More interesting, however, is another fact observed by Böhm, viz., that sometimes during diastole part of the ventricle (frog's) remained contracted, while the rest distended with the blood. These partial diastoles, he found, may change places with those remaining contracted, so that it may happen that the right and left halves of the ventricle, or the two corners of the base, may contract alternately, as in the normal action of the auricle and ventricle. As before remarked, the observations where a pulsus bigeminus and other forms of irregularity resulted from the action of digitalis are exceedingly numerous; but that, in the cases here considered, the irregularity was simply due to the digitalis, is sufficiently disproved by the fact that, in two at least of these, the irregularity appeared although the drug had not been previously administered. It would thus appear that mitral insufficience, right-sided congestion, and digitalis have all some influence in causing this irregularity, while by no one of them, nor indeed by all combined, is it invariably produced. The truth would seem to be, that irregularities of the heart's action are produced by a condition of the regulating nerves of the heart, the same or nearly the same as that which the above-mentioned causes induce.

As to the nature of this condition of the nerves which causes irregularity, much valuable information has been gained by recent researches, most of them conducted in Ludwig's laboratory. The degree of tonus which the vagus nerve presents, in comparison with the amount of excitation of the accelerating nerves and of the automatic intracardiac arrangement, may, I am strongly inclined to believe, be considered as lying at the root of the matter. In other words, basing my theory on the observations of Von Bezold,[2] Bowditch,[3] Mayer,[4] and others, on the antagonism of the accelerating and inhibiting nerves of the heart, and finding such a theory supported by the facts of clinical observation, I am inclined

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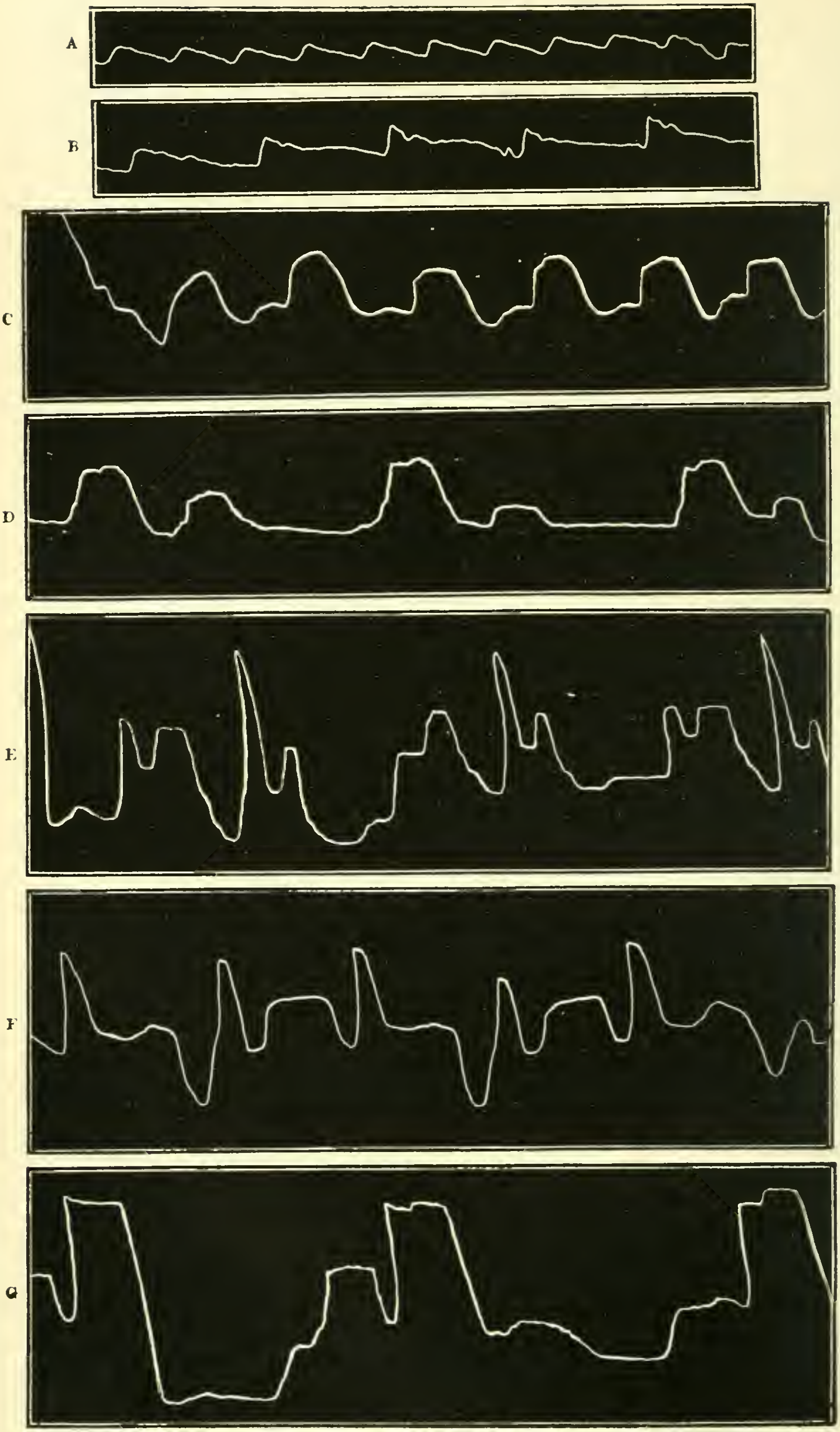
[1] Böhm, *Pflüger's Arch.* Bd. v.

[2] *Innervation des Herzens*, p. 297, 1863.

[3] Ueber die Interferenz des retardirenden und beschleunigenden Herznerven.—Ludwig's *Arbeiten*, 1873.

[4] Studien zur Physiol. des Herzens. Sitzungsber, d. k.—*Akad. zu Wien*, Bd. lxviii



TWO HEART CASES WHICH PRESENTED A RARE FORM OF IRREGULARITY.

to believe that irregularity of the heart is due to an "interference" of the opposed action of the inhibitory and accelerating nerves; assuming, as is justifiable, that the automatic intracardiac nerves act with the latter as regards this question. Such a theory will be seen on consideration to mean simply *relative* weakness of the inhibitory nervous influence. To consider fully the merits of such a doctrine and its practical importance, considering the many therapeutic remedies which act on the vagus, or to review the facts which support it, would at present lead me too far; and I content myself with barely giving its outline. It will be seen, however, that whether this theory be well founded or the contrary, it does not bear directly on the nature of our special form of irregularity, but on irregularity in general. The much more subtile question as to why, in a given case or at a given time, one form of irregularity presents itself rather than another, I must also leave untouched. In conclusion, I may call attention to the symptoms which my two cases presented, pointing towards disease or greatly altered condition of the vagus (pain on pressure, obstinate vomiting, etc.), and to the fact that, in one of Fraentzel's cases, where no mitral lesion existed, the vagi were compressed by an aortic aneurism.

EXPLANATION OF FIGURES.

A. Usual pulse from Case II. *B*. When the irregularity was present (both by Marey's sphygmograph). *C*. Usual heart-beat of Case II. *D*. Abnormal rhythm of the same. *E*. From the jugular bulb of the same.

F. Venous pulse from the jugular of an emphysema case with tricuspid insufficience. Given to show an ordinary venous tracing taken by the same instrument as gave the other tracings.

G. From the jugular bulb of Case I.

Note.—It should be mentioned that the clockwork of the instrument by which the above tracings were taken moves at twice the usual speed.

ARTICLE III.—*Lecture delivered at the opening of Anderson College.* By M. CHARTERIS, M.D., Professor of Medicine, Anderson College, and Lecturer on Clinical Medicine, Glasgow Royal Infirmary.

GENTLEMEN,—My first and most pleasant duty is to bid you welcome to Anderson College on the opening day of another session. My next is to give an introductory lecture; and the choice of a subject, independent of any other consideration, renders my position extremely difficult. Our responsibilities as teachers and yours as students were so fully and ably dwelt on by my friend Dr Buchanan last year that I could not by any words of mine add to the faithful picture which he drew. I am perforce almost obliged to go aside a little from the beaten track and choose a theme, which, if it may be a little egotistical, can at least claim the charm of novelty. You as students are apt to think student life dull and monotonous, with a terrible ordeal —a veritable Frankenstein—hovering over you at every stage of your studies. You long for the day when that shall be removed, and you are able to emerge from your chrysalis state to the full freedom of qualified practitioners of medicine. It is natural that it should be so; but, as your after-life will testify, you will look back on the student career probably as one of the happiest times of your existence. Your thoughts will insensibly cling to bygone student memories. You will recall the bench on which you sat, and on which most likely you carved your name. You will remember each class-fellow and each teacher with words of condemnation, of praise. Events which seemed at the time most trivial, will be magnified, when you meet one another, into topics of absorbing interest. The street in which you resided, the very room in which you studied, with its furniture and its pictures, and last, not least, its landlady, will ever have a prominent place in your fancies.

Thinking over these things, I desire in the lecture not to speak of the far-distant past, or of those who in the olden times embellished the pages of medical literature, but of some men whom I knew when I was a student, and with whose names you must be familiar. Such a subject is best treated in the form of a narrative, with the comments of individual speakers.

With this introduction, then, to an introductory lecture, permit me to choose for my theme

EDINBURGH REVISITED.

Three years ago, the British Medical Association had their annual gathering in Edinburgh; and they selected as the inaugural day of their meeting the 1st of August, which has been for many years the capping-day in the University. It was thirteen years since I had seen a similar ceremony performed. There was no change in it. It was the same as of old. The coming forward of the graduates one by one to take the oath of fidelity to *Alma Mater*, the swearing of fealty to the principles of the healing profession, the greeting with loud applause of favourite students, and then the farewell address bidding the new-fledged go out into the world and forward as others had done before them, in the remembrance and practice of those precepts which had been inculcated, as leading, if not to affluence, certainly to an eminently honourable and useful career. Things had considerably changed during the thirteen years' interval. The Professor who addressed the graduates had sat side by side with us on the Chemistry benches, and now he was the successor of Hope, and Gregory, and Playfair. Time had grizzled somewhat the hair; but the face, though fuller, was still the keen, thoughtful student face we remembered sixteen years before.

Though some of our former teachers were present, many, alas! were gone. Time had dealt lightly with Sir Robert Christison, for he still stood before us erect and commanding—a born leader of men. Balfour, too, seemed as able as ever to breast Benledi and guide his students, by hill and dell and forest into the mysteries of the many natural orders he loved so much. Maclagan, too, was there, with his jaunty air and his cheery ring of voice. The other Professors were new men; and though each doubtless had won or would win laurels, they seemed small in comparison with the giants and the idols of our own student days.

In meeting old fellow-students, it was natural that, like old soldiers, we should fight our battles over again, and revisit scenes memorable to us in our student campaign. As we recalled the old days, we became young once more. We marched to the old botanical rambles with light hearts and happy heads. As we stood by the side of some corn-field, vasculum on back, we were introduced by one whom we still called "Woody Fibre" to Leontodon taraxacum, and many other members of the mysterious complex order of the Compositæ.

"Not one flower, but many flowers, gentlemen." Anon we followed the wiry form by green meadow or babbling brook, up the steep hillside or down to the shady glade, plucking numerous flora or rare orchids—many of which, we were sorry to say, were never pressed, and the very names of which, for the life of us, none of us could now remember. Then, our ramble over, tired and dusty, we returned to town, startling honest rustics by student glees and collegiate songs by the way. It was in these days friendships were formed, and rivalry, intellectual or otherwise, began. Dear old times!—they came back on us so fresh and bright and pure in the anxiousness and turmoil of later years that we seemed in dwelling upon them to quaff a draught of a new *elixir vitæ.* As we recalled those scenes we spoke of the absent—of W., now in New York, a distinguished man; of R., in India, whom we knew would be with us in spirit on this capping-day; from New Zealand we seemed to hear the deep-toned voice and joyous shout of the prince of good fellows who plies his calling near the home of the Maories. Many, alas! had gone from us for ever. Some sleeping, we remembered sadly, beneath the palm-trees of the East, some resting in the sea depths, and some in the quiet churchyard.

How it was we know not, but as the old times were thus re-lived, three of our former teachers were ever and anon in our hearts, and we loved to speak of them, and to linger and dwell on the characteristics of each. These were Goodsir, Syme, and Simpson.

John Goodsir was the students' idol, and each of us had something of personal interest to tell of the great anatomist. A tall, gaunt, weird form rose before us as we spoke of him, with halting gait and strange unearthly eye. A solitary man—a man who seemed to live in some other world, and only came out once a day to tell us student lads of what it was his duty to unfold.

"Do you remember that day," said C., "when Goodsir was describing a bone of the foot, and when, after showing how exactly it fitted into the mechanism of the human frame, he launched forth into comparative anatomy—a whole flood of suggestive thought welling, as it seemed, from his teeming brain; and then, staggering back and leaning against the door, recalled himself like a preacher to his text, and paused?"

His memory was wayward and treacherous, and, carried away by his ideas, the old man had forgotten the very name of the bone he was describing, and simply said, as he held it out before him,

"This bone, gentlemen, this bone."

"Oh!" said D., "Goodsir was great as an anatomist, but he was greater still in possessing a heart which beat as warmly for his students as father's ever did for son, and this was strange. For remember his lonely student-life, his early love-disappointment, followed by his money reverses and loss of valuable MS., and the death in Sir John Franklin's Expedition of his brother, whom he loved as his own soul, and you could conceive his becoming sour and ascetic; but instead of that, we can all recall personal traits of his loving heart."

"Indeed he had a kindly heart!" we exclaimed. "We remember well appearing before him for examination as he sat beside a table covered with anatomical specimens, and appeared to be glancing over our written paper, which we knew was far from satisfactory."

Recognising us, he said,

"Sit down, sit down."

And then he put some easy question, which was easily answered; and then, putting a further question, on which we knew everything depended, he said,

"Take your time, sir; take your time to this one."

Never can we forget that anxious moment, nor Goodsir's deep voice as he again said,

"Take your time, sir; take your time."

Fortunately we answered correctly, and with a smile of satisfaction on his face, he leaned over the table and stroked our arm, saying, as he did so,

"I knew you knew it, sir; I knew you knew it."

These little episodes, these kindly speeches, endeared John Goodsir as a man to his students, and were enhanced by the thought that while the words of other anatomists had been questioned, no statement of Goodsir's had any one presumed to doubt.

In speaking of Syme, we recalled that memorable day in surgical annals when he tied the leading artery of the neck. The circumstances of the case were peculiar. In a tavern brawl in Ayrshire, a man attacked his fellow and plunged his knife into the region mentioned. The result was an aneurism, which had increased to such an extent that life was in danger from the tumour bursting. The patient was brought to the Edinburgh Infirmary and placed under the care of Syme, who, with characteristic decision, resolved to ligature the vessel. On the day of the operation the theatre was crowded. The issues were momentous. Two lives were at stake—that of the man who received the injury, and that of the man who inflicted it. Country practitioners came to town, and the *élite* of the profession in Edinburgh and the neighbourhood occupied the benches. After the patient had been put under the influence of chloroform, Syme stood, to all appearance, the only unmoved man in the theatre. Tucking up a little the sleeves of his dress-coat, looking as usual neat and tidy, with his light trousers and coloured neck-tie, and with face as calm and confident as if about merely to puncture an abscess. Testing the knife lightly at first on his hand to feel its edge, he next applied it to the skin of the slumbering patient. As he did so, the colour fled from the face of the junior student, as he sat even trembling. The flippant, roystering, dare-devil air which characterised the men of bitter-beer celebrity, was exchanged for a more becoming bearing, as befitted the place and the occasion. Older students and practitioners were overcome with a more intelligent awe, for they knew the difficult structural anatomy of the region, and the knowledge intensified their anxiety.

We have heard the hushed silence which fills a pause in the address of a mighty orator who holds his audience as if spellbound, but have never experienced such a stillness as this. Yet in the stillness and anxiety there was confidence in the operator, for we had never known, and we could not fancy, Syme to fail. Guided by the firm unerring hand and the resolute will of the great surgeon, with no nervous jerk, no stumbling plunge, the knife calmly and steadily reached the sheath in which the vessel lay, separated vein and nerve from artery, and round the latter a ligature was secured. When the wound had been cleaned and sponged and dressed, and the patient removed from the table, we ventured once more to breathe, and give the successful operator the only reward in our power—a loud and long-continued burst of applause, in proud consideration of two lives saved, of another laurel to the operator and to *Alma Mater*, to which he and we belonged.

In talking of Simpson, we spoke of his original research, of his power of making others work with him and for him, of the broad grasp he took of every subject. We remembered how this very breadth of view made him many enemies, for he did not confine himself to his own branch, but entered the lists of surgery and medicine, and cognate sciences, and fought those who deemed these domains their own with all the force of his vigorous pen. Perhaps no one was more cordially hated or more deeply loved than Simpson. He was called quack by some, and lauded unduly by others. It was impossible to see him, however, without at once discerning that he was no common man. Gerald Massey, in a very appropriate line, depicted Simpson most perfectly when he described him as having

> "Bacchus' body, crowned with head of Jove."

The lower part of his frame, in its rotund proportions, resembled all we associate with the son of Semele, while the large, nobly developed head, round which the long black hair fell independent of all peruquiers, and the broad beaming genial face on which a perpetual smile hovered, might be considered no unfit representative of what the Thunderer of Olympus would be when he was on good terms both with gods and men.

As a teller of stories he was inimitable, and was wont to beguile the tedium of the lecture-room by characteristic narratives. Naturally some of these were about chloroform. When the capital was agitated by his great discovery, it became divided into chloroformists and anti-chloroformists; and it was not uncommon at evening parties at Simpson's house for some of the company to become narcotized. A well-known dandy stoutly and indignantly denied that all sensation was lost during the time the drug exerted its influence. Chloroform was administered to him, but when he recovered he said he knew all that had happened. Again he was put under its influence, and Simpson resolved to give him ocular proof of his unconsciousness by removing his boots and stockings. He did so, and the astonished youth, on awakening, found that the party were staring with mingled laughter and disgust at his feet, which were as black as a costermonger's. Simpson was wont to tell with infinite gusto how the young man hurried home, and did not again appear in Edinburgh society for many a day.

"He was a many-sided man," said D.; "yet I cannot say I admired him. Possibly this was because my admiration was bound up in Syme, and consequently I inherited his prejudices."

"*De mortuis nil nisi bonum!*" we exclaimed. "Remember how the two were reconciled, even although it was only at Simpson's death-bed. It is time to bid one another good-night."

As we did so, the grey dawn was breaking over the city, the lion couchant of Arthur's Seat seemed to rouse himself from his slumber; tall and stately rose the Castle Rock, and green and fresh were the Princes Street Gardens, from which was borne to our ears the twittering song of many a bird.

These, gentlemen, are some of my reminiscences. Yours, doubtless, will not be less pleasant, when, your studies over, you meet one another under somewhat similar circumstances. We cannot, indeed, in Glasgow, boast of its natural beauties; neither can we delude ourselves by saying it has a fresh invigorating atmosphere. On the contrary, as this day abundantly testifies, if the truth must be told, it is damp and uninviting, and the air is contaminated with the smoke incidental to a great and growing commercial centre. Yet it has advantages and treasures for you as students all its own. Its teeming population enables you to see disease in all its forms; and student life completed, if you have diligently embraced the opportunities presented to you, you are turned out no mere theoretical gropers, but men trained to the exigencies of practice. You can stand by the bedside with the firm assurance which true knowledge gives. You can say with confidence, This disease and that I have seen in its actual reality—this emergency I can cope with—this difficulty I can overcome. This confidence is not to be bought. This experience, so acquired, will be the surest guarantee for your future professional success. It is the experience of the practical swimmer, not that of a man to be plunged into water for the first time, who knows how he should move arms and legs and body, but fails to do so from lack of faith or want of practice.

I have heard it stated as a reproach to this College that its fees are small, and that it offers a cheap pathway to the profession. I consider this as no reproach. Nay, I deem it an unspeakable boon, as well as a distinguishing characteristic. The lips of the slanderer should be sealed when you point to the life of an old Andersonian student. Many years ago, a weaver-boy placed a Latin grammar on the spinning-jenny, and, unmoved by the noise of the machinery and the novelty of the position, learned its rudiments as he passed from loom to loom. The boy grew into a loose, slim-jointed lad of nineteen years, and was fired by the innate ambition of his nature to become a member of a profession which, as he expressed it, "is pre-eminently devoted to practical benevolence, and which, with unwearied energy, pursues from age to age its endeavours to lessen human woe." So he scraped together, by the hard work of his handicraft, what would support him here as a medical student during the winter, by returning in the summer to his loom and his weaver's lot. With justifiable independence and pride he said, "I never received a farthing of aid from any one."

The Blantyre weaver-boy who sat on the benches where you now sit, had his ambition gratified by the facilities which this College gives, and David Livingstone became the great traveller, the good physician, the Christian missionary; and when, tired and worn with life's journey, he sank to his rest, faithful hands bore him homewards, and a grateful nation placed his remains in that mighty mausoleum where England loves to bury those of whom she is proud.

As a seat of medical instruction, age should endear the Andersonian to you, while its associations and the memories of those who have preceded you are the most fitting incentives to your efforts to perpetuate its fame. It may be on its trial now, as it has in its history been before, but I am sure, as on former occasions, it has vitality within it to overcome all obstacles, and in its successful future as Anderson's College each of you will be proud to say, "I, too, studied there."

One word in conclusion to two classes of students I see before me. It is the first time that some of you have listened to an introductory lecture. You come fresh from the influences of home —it may be you are new to city life or college discipline. The studies you are about to engage in will open up a wondrous field, which each succeeding step will make by its reality more entangling and more hard. Be not dismayed at the prospect. Stick manfully to your work, and the primary difficulties incidental to the next few months will be overcome. Even by the end of the session you will have gained a vantage-ground which now you can hardly realize. Be true to the impulses which prompted you to enter the profession, and you will bear within you a sure antidote against the temptations which beset the career of a medical student. Be manly and upright, setting before you a high ideal of what you would wish to be.

To some of you this is your last year. Already you feel your feet clearing under you. You have nearly gained the summit of the mountain which loomed dim and vast and steep when you came here a junior student. In a short time, like the soldiers of the famous Grecian story, you will behold the sea—the sea of your future profession, on which you will have to venture your individual craft. It is a sea crowded with many navigators, with many shoals and many rocks, and much unseen danger. Strive to make your way on it. Beware of a collision with other barks. Pursue the open and honourable course, steering neither to the right hand nor to the left from the track which honour dictates and the truest self-interest demands. As student to student you would not do a dishonourable thing; as practitioner to practitioner feel the same, and thus you will reflect credit on those who taught you, and the College to which you have belonged.

> "To your own selves be true, and then
> You can't be false to any man."

To all of you I would say that as a profession we are advancing in public estimation. We are presenting a much more compact force, and our opinions are listened to and acted upon in quarters where at one time they were little heeded. We are recognised as legitimate guardians of the public weal. Our fiat must be given ere the sanitary theories of the statesman can become the laws of the future. There is hardly a possible social problem in which we are not interested, and upon which our opinion will not be sought. Nay, more; not merely are we instrumental in the framing of laws, but, as recent events have proved, we can turn aside the sentence of a one-sided and presumptuous verdict, and justly shelter, under the ægis of our scientific experience, the cowering criminals who would otherwise have cried in vain for human mercy. Such power, such influence, can only be retained by high character, unflinching honesty, unselfish aims. It will be lost, and deservedly lost, unless you young men, here and elsewhere, recognize the noble future for which you are being trained, and strive so to walk during the days of your pupilage and your youth, that you are prepared for afterwards entering a household as a trusted confidant in times of joy or sorrow, and for becoming the recipient of secrets of homes sacred from all other ears but yours.

ARTICLE IV.—*On Third Stage of Labour; its Management: with Remarks on Position, Diet, etc., after Delivery.* By G. K. HONEY PATERSON, M.R.C.P., L.R.C.S.E., Perth.

ALL who have had the opportunity of giving their attention to parturient women, in natural labour, will, I doubt not, freely admit that its third stage, either before or after being completed, is occasionally, in certain cases, succeeded by post-partum hæmorrhage; and that also watchfulness, as well as care, with acquired experience, is requisite on the part of the attendant in the use of ready means for diminishing the risk of the latter as speedily and as safely as possible, at all times, lest it should occur. When, in past years, I found, in the not a few cases of natural labour attended by myself, everything going on favourably as regarded any one of these singly, and the prospect of the child being born soon or within a reasonable time, I have, shortly before the birth of the child, generally given at first a small or moderate dose of ergot in powder, and repeated it as often as was necessary, rather than the infusion, from being able to give it, if required, at once, with a little good whisky or brandy as a medicine after it, particularly if weakness or weariness be observable at times in the lying-in woman. I may say, *en passant*, that the powder of ergot, when given as I have just stated, does not seem to show its effects on the face of the child as I have seen the infusion of the same when administered do. I still give ergot, and consider that it has great influence, when given in timeous and cautious doses, in preventing or diminishing the risk of uterine hæmorrhage previous to or after the expulsion of the placenta; and I prefer, instead of waiting twenty minutes or half an hour for the latter to come away, on finding that friction or pressure is insufficient, to introduce the forefinger before the os uteri closes —with either the placenta inside of it, or only partly within and without the former—and patiently and gently removing it earlier;

if after this I find the uterus not sufficiently contracted, I use bi-manual compression from side to side of the uterus through parietes of abdomen, and downwards from the epigastric region to the pubes, until it has become as firm as may or can be trusted to; then the woman is properly bandaged.

Remarks.—Observing in previous cases I had been called to attend, where either two or three days or nearly a week had elapsed since their confinements, that they looked pale and languid—or, to use a Scotch phrase, were not "mending fast"—which, consequently, led me afterwards not seldom to inquire, and to make more close examination at all the bedsides into the state of each mother, and also to ascertain whether the lochial flow had been or was too scanty or profuse; if the latter, which seemed to be the oftenest in its occurrence, I had all blood clots, wet cloths, the saturated folded-sheet beneath them removed, and requested such to be taken out of the patients' rooms at once; while I tightened, with a good pad sometimes underneath it, the bandage over the fundus of the uterus, replacing the wet, sanguineous cloths with warm dry ones. Still they had often little appetite, along with moderate recurring after-pains, accompanied by weakness generally, and a disinclination to any movement of their bodies in the bed. Not being satisfied with their progress of improvement from the lying-in state, I often urged them to make more movement in bed, which they were much against doing, although always they did so more or less afterwards.

I was, at this period, far from being confident about the latter procedure; however, past writings (home and foreign) and ideas occurring to myself, encouraged me to persuade mothers to sit up in bed on third day at least; and they seemed each day after commencing it, to gain more strength. Seeing such to follow, I cautiously, more than three years ago, enjoined the sitting-up position in bed after childbirth on the second day; and finding no harm resulting from it, but good, I not long after this, on the expulsion or removal of the placenta, and the bandage being applied round abdomen, followed the same method on first day after delivery. I find it now a good plan, as soon as the delivery is completed, and immediately after the application of gentle bi-manual compression of the uterus, as previously stated, and followed by the bandage, to assist and encourage each mother to sit up in bed for two or three minutes at a time, and then to let her lie down again. By such management, the contraction of the uterus is increased, its contents are expelled with less risk every way than by the too-still position in bed; the contracted state of the uterus keeps up better, and sub-involution appears to be quickened. The recoveries from above method have been, I am humbly able to say, greater in number and sooner than under the old or ordinary system; with few or no after-pains complained of, and less lochial discharges.

I approve, from the good effects I have observed, of allowing lying-in women, after childbirth, a fair quantity of wholesome food, and I order them to take it early in preference to wine or spare diet. When there has been a tedious, exhausting labour, and after it is completed, nothing else appears to me better, or strengthens so much, as a little food, along with a warm cupful of good tea, at such a time; to be continued afterwards, and the room well ventilated, until she is able to be out of bed and about again.

The cases in private practice alluded to in this paper consisted of primiparæ and multiparæ. In several of both I found after child-birth retention of and adherent placenta. They were all vertex presentations at full time, and a number of these required the use of the forceps. Almost the whole of the children survived.

ARTICLE V.—*On the Diagnosis of Anomalies in the Conducting-Apparatus of the Ear.* By Professor GRUBER of Vienna. Translated by J. GRAHAM BROWN, M.B., C.M.

ANY one who has carefully followed the advance of aural surgery during the past ten years must have marked the great progress which has been made in the diagnosis of diseases of the outer and middle ear. Much that before was problematical is now recognised with the greatest ease, and with, one may say, almost mathematical precision; and since, in this department of surgery, diagnosis and treatment go hand in hand, our therapeutics has also made great strides.

In spite of this, we still can only give a probable diagnosis in many cases of anomalies of the tympanic membrane, and upon this an energetic plan of treatment cannot safely be based. Among such must be classed irregular tension of the membrane, to the diagnosis of which the following remarks are directed.

Toynbee has previously observed that this membrane may in many cases be much relaxed, and I have in my *Lehrbuch der Ohrenheilkunde* and elsewhere drawn notice to the fact that not only relaxation but also overstretching may of itself prevent the normal conduction of waves of sound, and in this way cause deafness. One can understand the injurious effects produced by these two conditions from physical laws alone; but their diagnosis is rendered difficult on account of the great difference between the two extremes of possible tension, as ocular examination only distinguishes the most pronounced cases.

In a case of relaxation, caused by a thin cicatrix in the membrane, I made the observation, as early as 1863, that the patient during the instant that the air-pressure in the tympanic cavity was increased by means of Valsalva's method (which consists in closing the mouth and nostrils, and forcing air through the Eustachian tubes), and the membrane thereby thrown outwards, had a marked increase in his power of hearing, which, however, he almost immediately lost as the membrane returned to its former relaxed position. On this ground I then performed myringectomy, and the removal of the relaxed portion of the membrane greatly improved his hearing.

Laxity of the membrane can be much more easily diagnosed than overstretching, because in addition to the ordinary ocular examination we have the help of Valsalva's method, by which the relaxed membrane is thrown outwards, and its altered position observed through the speculum. But in the great majority of cases of overtension, one could formerly only *conjecture* that such a condition existed, and on this account, during the last year, I have devised the following method by means of which the diagnosis can be made with certainty.

If I hold a vibrating tuning-fork close to my ear, and at the same time increase the pressure in my tympanum by Valsalva's method, the sound during that instant becomes weaker, and that in direct proportion to the amount of the increased tympanic pressure, or, in other words, in proportion to the artificial tension and outward stretching of the membrane; and whenever the drum returns to its normal position, the sound of the tuning-fork becomes again more perceptible.

But if, in the case of a patient, the sound of the fork loses little or none of its intensity during the employment of Valsalva'a method, I can conclude that the increased intra-tympanic pressure has not caused any appreciable outward stretching of the membrane, which must therefore be in a condition of abnormal relaxation, and the momentary outward bulging must have placed it in a better position for the conduction of second waves.

In many cases I have been able to satisfy myself of the accuracy of this means of diagnosis, and to ground thereon my therapeutics. But even here there is a source of error, since one must rely on the patient's own opinion regarding what he hears, and thus the method becomes no longer a purely objective one. Very recently, however, I believe I have found a means of controlling the patient's statements, and thus of arriving at a reliable diagnosis.

It has long been known that when a vibrating tuning-fork is placed on the vertex, or on any other part of the skull, the sound is heard loudest in that ear in which there is a hindrance to sound-waves in the conducting-apparatus. If, for example, the meatus on one side be blocked up with cerumen, the patient will hear the fork more loudly in that ear than in the other in which no such obstruction exists. Mack has clearly shown that the cause of this phenomenon lies in the fact that the waves of sound which are conducted to the labyrinth through the bones of the skull cannot be to a sufficient and normal extent transmitted outwards again by the conducting-apparatus of that ear, that a greater amount of vibration is retained in the labyrinth, whereby the auditory nerve of that side is more strongly vibrated, and consequently, the sound is more distinct on that side.

Any one can make this observation in the easiest way for himself, since the effect caused by accumulation of cerumen can also be readily produced by the pressure of the finger on the external auditory meatus.

I can also arrive at the same result if, while the tuning-fork is sounding on the vertex of my head, I inflate my tympanum by Valsalva's method; thereby the membrana tympani will be forced outwards to an abnormal extent, will thus be able to transmit outwards a smaller quantity of sound than in its state of normal tension, and so during the instant of inflation I will hear the sound of the tuning-fork more distinctly. If this condition, as is undeniably the case, is normal, that is to say, *if, in normal tension of the membrana tympani, waves of sound conducted to the labyrinth through the bones of the skull are more distinctly heard during the inflation of the tympanum by Valsalva's method, it follows that any deviation from this normal (supposing it to have no constant explanation of another kind) must be caused by a state of abnormal tension of the membrane, and I hold such an observation to be diagnostic.*

In *relaxation* of the membrane, the sound of the tuning fork is heard less distinctly during inflation, for by outward pressure the membrane is placed in a better position for the transmission of sound-waves, and so a greater amount of sound escapes from the labyrinth. On the other hand, in cases of *overtension*, no appreciable change takes place, since the membrane cannot, by Valsalva's method, be any further stretched.

It would no doubt be the simplest way of controlling the patient's statements were we able to conduct the waves of sound which escape through the patient's tympanum, to the ear of the surgeon; but as yet, at least, I have at my command no instrument or apparatus by the help of which I could distinguish so fine differences, and this must remain a subject for future discovery.

But since we have at our disposal two methods by which with the same tuning-fork we can produce two directly-opposite impressions on the patient's organ of hearing, the one of which is a direct corroboration of the other, we have a means of control which almost raises the double method to a purely objective level, and which entitles it to be incorporated among the most valuable of aural surgery.

ARTICLE VI.—*The Course of Diphtheria in Two Brothers almost simultaneously stricken:—A Clinical Study.* By Sir JOHN ROSE CORMACK, F.R.S.E., M.D. Edin.; M.D. Paris; Fellow of the Royal College of Physicians of London; Membre de la Société Clinique de Paris; Physician to the Hertford British Hospital of Paris; Chevalier de la Légion d' Honneur.

THE following histories of the course of Diphtheria in two brothers almost simultaneously stricken, present some special features occurring in conjunction with most of the ordinary and typical phenomena of the disease. For that reason, and because the cases were more minutely observed and reported than is generally possible, they are now submitted to the profession *in extenso* as a supplement to my former papers on Diphtheria.[1]

CASE I.—HENRY STOCK,

aged 4 years and 4 months, was brought by his mother to the Hertford British Hospital at 9 A.M. on Thursday, 2d August 1877, on the recommendation of Dr Chery, who, when first called to him on the previous evening, informed the parents that his malady was "croup" in its intense form; and that tracheotomy would probably be necessary within a few hours, to avert threatened suffocation from diphtheritic obstruction.

The mother, when she brought her child, described with precision the insidious manner of the invasion, the abrupt declaration, and the subsequent progress of the disease. Her statement, afterwards revised with her assistance, was to the following effect:—

On *Monday*, 30*th July*, Harry ate and played as usual. During that day he seemed in perfect health till the evening, when he was reported by his brother (Tommy) to be asleep on the door-steps. At the time, his mother attributed this occurrence, and complaints of discomfort which he made on going to bed, to his having tired himself by playing too energetically on a warm day; and she thought that a night's rest was all he required to restore him to his ordinary state.

Tuesday, 31*st July*.—During the whole day he was drowsy and feverish. He ate little; and all the food he took, he vomited soon after swallowing it. He said that he felt very tired and sleepy; but he made no complaint of pain in limbs, head, throat, cervical glands, chest, or elsewhere. He had no cough, no dyspnœa, no turgidity of face or neck, and no apparent affection of the cervical glands. In his mother's opinion, he was only ailing a little, requiring rest but not medical treatment.

Wednesday, 1*st August*.—When his mother went out at nine in the morning to her usual laundry work, the child seemed to be very much as on the previous day—better, rather than worse—there being less nausea and less drowsiness. He became restless and uncomfortable as the day advanced. About 4 P.M. the mother was sent for, the child's breathing having suddenly become difficult and noisy. When she arrived, she found him greatly changed. His face was swollen, his respiration noisy; and his struggles for breath were, at short intervals, accompanied by "croupy fits." In other words, he had imperfect oxygenation of the blood, and paroxysmal exacerbations of the dyspnœa, during which the breathing was stridulous. Under these circumstances—Dr Chery was sent for. As has been already stated, he at once explained the nature of the case to the father and mother of the child, recommending at the same time immediate removal to the Hertford British Hospital. During the night the child had some intervals of comparatively quiet sleep.

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[1] See this Journal for March, April, May, June, September, and November, 1876; also *Clinical Studies*, vol. ii. London, 1876.

Thursday, 2d August.—Towards 6 A.M. the breathing was persistently more difficult, and the croupy paroxysms more alarming. At 9 A.M. he was brought to the hospital. On his arrival, he was, as his mother said, in the most severe dyspnœal paroxysm he had yet had. Dr Alexander Greenway, Resident Clinical Assistant, at once recognising the extreme urgency of the case, sent to ask me to anticipate, if possible, the hour of my ordinary visit to the hospital. I arrived at 10 o'clock. The child had then been an hour in bed; his respiration was noisy and very difficult; and his face had a purple, bloated appearance. The nature of the case was evident at a glance. Before I arrived the dyspnœal paroxysm had slightly abated, and it continued to moderate so considerably during my visit that I left at noon, having decided to delay tracheotomy, which, on my arrival, had seemed to be immediately imperative. There was still a small—a very small—chance that the operation might not be required. In addition to the leading facts now mentioned, the patient's state was recorded to the following effect during my visit:—

The boy has a sturdy build, is short-necked, fair, and very fat. There is a pale lividity of lips and countenance, and a dry hot state of skin. The left side of the neck is somewhat swollen. Pressure over the larynx, trachea, and cervical glands does not elicit any sign of pain; but in connexion with this observation, it must be noted that the patient is, to a certain extent, anæsthesiated from partial asphyxia. His breath has a gangrenous odour, which, notwithstanding the open window, powerfully pervades the room. He answers questions slowly, but intelligently, if roused when spoken to. The tonsils, fauces, uvula, tongue, roof of mouth, and the gums, are covered with a thick, leathery false-membrane, presenting some semi-detached fringes. The uvula is imbedded in false-membrane, portions of which have a black, gangrenous, pultaceous appearance, whence, probably, the offensive odour already described. The pulse is quick and feeble. Respiration is short and shallow.

The following treatment was prescribed:—(1.) The interior of the mouth, and the whole of the accessible mucous surface therewith connected, to be gently moistened every hour with a wash composed of equal parts of water and the glycerole of borax, *Br. Ph.* applied by means of a very soft brush. (2.) After each application of the wash, to give half an ounce of a mixture consisting of 4 ounces of brandy, 8 ounces of water, and 12 grains of carbonate of ammonia; and immediately after each dose a tablespoonful of strong beef-tea.

5 P.M.—The treatment ordered at noon has been exactly followed out. The application to the interior of the mouth and throat has been accomplished with great difficulty. On two occasions it induced slight vomiting, with consequent detachment of small shreds of false-membrane, and the ejection of a brownish, slimy, fœtid fluid. His countenance is less livid, he looks brighter, and breathes rather more easily.

6 P.M.—The improved appearance observed at 5 o'clock was of very short duration. He is now more livid than he has yet been, and lies in an apathetic semi-asphyxiated state. He unconsciously passed urine, and a loose motion half an hour ago. From this time matters became rapidly worse. The pulse is now 160, and very feeble. The temperature is 38·9° C.

8 P.M.—As the symptoms of asphyxia were becoming more and more intense, Dr Greenway sent for me. I arrived some minutes before 8; and at 8 o'clock, death from asphyxia being imminent, I proceeded to perform tracheotomy, having first obtained the consent of the mother, who had fortunately come to the hospital a few minutes before my arrival, and had realized the fact that the child was all but dead. I told her that the operation was a forlorn hope, and that the child might die before it was completed. The nature of the case necessitated great caution, and so precluded the possibility of a rapid operation.

The patient, in a state of asphyxial anæsthesia, was lifted from his bed, and laid on his back on an immediately adjoining narrow table, which was well lighted by powerful lamps. Security was taken against embarrassment from the struggles or movements of the child, by passing a sheet above his legs and under the table, by securing both arms, and by having the head firmly held in position by Miss Smith, the Lady Superintendent of the hospital, stationed for that purpose at the head of the table. I stood on the right, and Dr Greenway on the left side.

Although a solid narrow cushion was placed under the neck, with the view of stretching and projecting the trachea, it could not be felt. I made an incision, exactly in the mesial line, through the skin and superficial fascia, extending it from a point which I judged to be over the cricoid cartilage to within the eighth of an inch of the sternum. Very little bleeding followed this incision. I then divided the deep fascia, and was proceeding to cut between the muscles when a gush of venous blood suddenly filled up and overflowed the operation-wound. Dr Greenway immediately introduced a small sponge into the pool with one hand, while with the other he expanded the incision by drawing the parts towards him by means of a blunt hook. In this way I obtained an excellent momentary view of the trachea at the bottom of the deep wound. Keeping the trachea firmly in position with the thumb and index finger of the left hand, I made a small opening into it with a sharp-pointed bistoury, exactly in the median line and immediately below the cricoid cartilage, forthwith enlarging the opening with a blunt-pointed bistoury. The incision divided the thick false-membrane which lined the interior of the windpipe, so that no semi-detached shreds—as often happens in such cases—impeded the free access of air, which at once rushed into the lungs, relieving the asphyxia even before the tube was inserted. The child was restored to consciousness ; and the hæmorrhage entirely ceased. He was placed on his side with the least possible delay, and allowed to remain in that position for a few minutes, whilst the tube was being fixed with tapes in the usual way, and some brandy and water administered. He drank the brandy and water with avidity, and when he had finished, looked smilingly at Dr Greenway and me and the others around him, thus well expressing the great and sudden amelioration which he experienced in his condition. He was replaced in bed with some folds of muslin covering the tube and operation-wound. After taking a second draught of brandy and water, he fell into a sound quiet sleep, in a natural position ; but when I left the hospital at ten o'clock, he was restless and sleeping only in brief snatches. He swallowed with difficulty. The respirations were shorter, shallower, and more rapid than they had been since the operation. The tube was examined and found to be free from obstruction. The cause of the increasing dyspnœa was evidently in the lungs. From this time the child's condition became worse and worse. The pulse was exceedingly feeble, and did not improve on the administration of stimulants. He became at times semi-rigid, and occasionally struggled. The tube came out about midnight, but was at once replaced by Dr Greenway, who was with the patient from the time of the operation till he expired in a state of unconsciousness at 3 A.M.,—seven hours after the operation had snatched him from death.

AUTOPSY: *Saturday, 4th August*, 11 A.M.—thirty-two hours after death. There was general cadaveric rigidity. A green discoloration of the skin was observed around the nostrils, mouth, on parts of the abdomen, and on the edges of the operation-wound.

Air-Passages, and Lungs.—The *mouth* and *nostrils* were lined with false-membrane, which was thick and leathery in the *nostrils, uvula, tonsils, fauces, gums,* and *tongue*. The *larynx* and upper surface of the *epiglottis* were coated with false-membrane of about an eighth of an inch in thickness. It was easily stripped off by the forceps, when the subjacent mucous surface was seen to be red and congested. There was some effusion in this situation below the mucous membrane. The false and true *vocal cords* and the lower surface of the *epiglottis* were covered with false-membrane, which was somewhat thinner in the lower than in the upper of these situations. The opening in the trachea was found to be exactly in the median line and immediately below the cricoid cartilage. The bistoury had in the operation cut clean through the false-membrane without detaching it, although by the forceps it was easily stripped off the mucous surface. When stripped of its pseudo-membranous coating, the trachea had a red congested appearance, and seemed as if puckered in longitudinal folds. The false-membrane was traced down from the trachea into the right and left bronchus, and so on into the minutest air-tubes of both *lungs*. There was, however, a material difference in their state. The right lung was adherent throughout to the walls of the chest. The adhesions were strongest laterally and posteriorly, but they were everywhere of considerable strength. The pulmonary tissue was intensely congested. Cut portions of this lung floated deep in water. The pseudo-membranous lining of the bronchial tubes could be drawn out untorn in arborescent bunches. The left lung was free from pleural adhesions. It was very much less congested than the right lung. Cut portions floated on the surface of water. The tubular arborescent bunches were thinner and less tough than those of the right lung. As in the right lung so also in the left, false-membrane was found in the minute bronchial subdivisions.

Alimentary Canal.—The *œsophagus* was red and turgid to the extent of rather more than half-an-inch—it was free from false membrane. No trace of false-membrane was detected on the inner surface of the *stomach* or on any part of the *intestinal canal*.

Heart and Pericardium.—There was a large quantity of straw-coloured serosity in the *pericardium*. The *heart* weighed 95·00 grammes. All the valves were in a normal state. The right side of the heart was engorged with dark fluid blood. The left ventricle was empty and strongly contracted. There was neither general nor circumscribed redness visible on the surface of the endocardium; nor was there any appearance which could be regarded as indicative of endocarditis having existed. The margins of the valves presented neither the red line nor red zone, which some have said are frequently met with in persons dying from diphtheria.

Urinary Organs.—Both *kidneys* were much congested, but in other respects they seemed to be in a normal state. Their capsules were not adherent. Before commencing the autopsy, a catheter was used to empty the bladder. Fifty grammes of very acid turbid *urine* were withdrawn. When heated, it at first became clear; on further heating, it became cloudy, and then a white deposit was formed. The addition of nitric acid produced a similar result. The urine deposited a heavy yellow precipitate of uric acid in lozenge-shaped crystals; and some epithelial cells were found in it on microscopical examination.

The *liver* and *pancreas* presented no morbid appearances.

The *thymus gland* was unusually large.

The *encephalon* was not examined.

Case II.—Thomas Stock,

aged eleven years, was admitted to the Hertford British Hospital on the evening of

Thursday, 2d August, the same day on which his brother Harry was received. At 10 A.M. on the morning of that day Thomas was first observed to be ailing. He then complained of sore-throat and thirst; and was feverish. His mother brought him to the hospital at 6 P.M., when she came by appointment to visit her son Harry (whose case has just been described), who had been admitted in the morning. When questioned, Thomas did not make much complaint of being unwell, and spoke of his thirst and sore-throat as if they distressed him very little. His mother did not consider him sufficiently ill to justify her leaving him at the hospital; but on Dr Greenway representing to her that the malady was the same as that under which his brother laboured, and showing her that the fauces, uvula, and tonsils were covered with a membrane which was in some parts in a state of decomposition, and calling her attention to the fœtor of the breath, she became alarmed; and forthwith brought the boy to my house. I saw him about an hour after he left the hospital, half of which time he had spent in an omnibus, and the other half in waiting in the street and walking a short distance. He did not complain of being tired; he said that he was thirsty, that his throat was sore, but less painful than it had been in the early part of the day. Having examined the throat, and found the appearances already described, I informed the mother that, as the case might at any moment become as serious as that of the brother, I recommended her at once to return with him to the hospital. She gratefully agreed to my proposal; and when I arrived at the hospital about eight o'clock, I found him fast asleep in the waiting-room. His mother awoke him to speak to me, but he immediately fell again into a deep sleep. When I saw him in bed, after operating on his brother, he was inclined to speak a great deal, though in a drowsy way. His voice was thick, but neither whispering nor nasal. He was in a profound and tranquil sleep when I left the hospital about ten o'clock. At that time his pulse was 112, and weak. His breathing was quick, but not noisy. He had no swelling, nor any painful affection of the cervical or submaxillary glands.

I ordered him to have, every three hours, alternately, a small cup of milk and of strong beef-tea. I likewise prescribed fifteen drops of the *Br. Ph.* tincture of the sesquichloride of iron, to be administered in a draught of water every six hours; and the frequent use of a gargle of the glycerole of borax (ʒj. and ℥j.) As he had not had a stool for thirty-six hours, I ordered a dose of castor-oil to be given early in the morning, and to be followed, in some hours, if necessary, by an enema of tepid water.

Friday, 3d August.—Since admission he has become deaf, to a certain extent, in both ears; the deafness, however, as determined by the watch-test, being greatest in the right ear. The skin is hot and dry. The face has a congested appearance. There is slight turgescence and pain in and around the cervical and submaxillary glands. The voice is whispering, having entirely changed its character. The appearance of the throat is very similar to that which it presented last night, except that the greater part of the partially decomposed shreds of false-membrane are no longer to be seen, they having been got rid of by gargling and coughing. He likes the gargle, and uses it frequently and thoroughly. At 9 A.M. the temperature and pulse were taken, when the former was 38·5° C. [101·5° F.], and the latter 136. At present the pulse is 130. The tongue is foul and slimy.

5.30 P.M.—Temperature 39° C. [102° F.]

9 P.M.—The castor-oil was given as ordered; but not the enema, till an hour ago, the patient having stated several times that he was just about to have a stool. The administration of the enema was followed by a large alvine evacuation, and a cessation of restlessness, which had been for some hours considerable and increasing. The patient, when interrogated, said that he felt "much better," and that the gargle always relieved the uneasiness in the throat. He often asks to be allowed to employ the gargle as a mouth-wash between the appointed times of gargling. The mouth and throat look much cleaner; they are nearly free from slimy discharge, and hardly any fœtor is exhaled with the breath. There is perhaps a slight increase in the thickness of the false-membrane; and now the soft palate presents a complete membranous coating. Temperature 38° C. [101° F.] Pulse 112.

Saturday, 4th August, 9 A.M.—The patient has become much weaker. He tries ineffectually to use the gargle, which is now gently applied every hour to the affected surfaces by means of a large camel's hair brush. The feet have a tendency to become cold; and the whole surface communicates a cooler sensation to the hand than yesterday. The nostrils are lined with false-membrane, which is extending to the upper lip, by spreading over the skin irritated by the nasal discharge. The temperature is 38·8°. The pulse is 84. The urine last passed is free from albumen, as it was likewise when tested on two previous occasions.

In addition to a continuance of the current treatment, he was ordered to have six ounces of brandy in the twenty hours, partly in the form of the *Mistura spiritus vini Gallici, Br. Ph.*, and partly mixed with milk. Careful maintenance of the temperature of the lower extremities by gentle frictions and wrappings of hot flannel was inculcated.

9 P.M.—He has taken three ounces of brandy, and a large quantity of milk and beef-tea since 9 A.M. He drinks eagerly, and never has any nausea. The skin (as in the morning) feels cooler than natural. The prostration has increased, and seems to be increasing. There was slight bleeding this afternoon from the left nostril, from which a viscid, sanguinolent, fœtid slime is now exuding: the right nostril is entirely blocked up with false-membrane, which has, since the morning, extended a little more over the upper lip. Temperature 38·4° C.

Sunday, 5th August, 9 A.M.—He was pale yesterday: this morning he is paler. He had some sleep in the early part of the night in short and disturbed snatches. About midnight a sudden attack of epistaxis caused the nurse to call Dr Greenway, who reports that the patient rapidly lost six ounces of fluid red blood from the left nostril. The bleeding was arrested in about an hour from its commencement by injections of an aqueous solution of *Br. Ph.* tincture of the perchloride of iron [1 to 7]. After the cessation of the epistaxis he had three hours of quiet sleep: then he again became restless, and has since so continued. When his mother, who came in the morning to inquire as to his state, was told of his attack, she said that he was very subject to bleedings from the nose, but that he had never before lost nearly so much as six ounces at any one time. He takes the brandy and aliment, as prescribed, with satisfaction. This morning he said that he was hungry, and has since several times asked for a bit of meat. He has had no stool since the action of the castor-oil and enema. There are visible in the left nostril shreds of false-membrane and some loosely clotted blood. The right nostril remains blocked up with false-membrane. The temperature is 38·5°. The pulse is very feeble; and it is variable in respect to rapidity. Its range is between 70 and 100. At present it is 100. The skin is hot over the chest and abdomen, and cold over the face and extremities.

9 P.M.—His condition has not varied much since the morning. During the afternoon there was a sudden and considerable hæmorrhage from the left nostril: it was not easily arrested. It was ultimately stopped by injecting an aqueous solution of the tincture of the perchloride of iron [1 to 3], followed by plugging.

During the last twenty-four hours he has had several enemata of the *Mistura spiritus vini Gallici*, in addition to the prescribed brandy and food by the mouth.

Monday, 6th August, 9 A.M.—The lips and face are deadly pale. The surface of the body feels cold. The temperature is 36·4° C. The pulse is 112—very feeble. The respirations are 20. The bowels were once moved during the night. Since yesterday the fœtor exhaled from the mouth has greatly increased, and at present imparts an intolerably offensive odour to the entire room, although every possible precaution is taken to maintain a perfect ventilation. Between 1 and 2 A.M. a recurrence of the bleeding from the left nostril took place, which was arrested by plugging. There was some difficulty in passing the catheter from the swollen state of the nostril, and the false-membrane and clotted blood which it contained. The epistaxis was followed by prostration so extreme as to resemble the profound collapse which, in similar cases, is often the immediate precursor of death. The swallowing power has been sufficient to enable a small quantity of beef-tea and brandy to be administered at short intervals. In addition, enemata of the *Mistura spiritus vini Gallici*, of small bulk, were given for four consecutive hours. Under this restorative treatment the patient rallied. He has now, in reply to my questions, said, in a low and whispering voice, that he feels better, and is free from pain. There is everywhere a slight moisture on the skin. The whole of the back part of the mouth remains covered with false-membrane, which (as hitherto) presents a dirty-whitish colour: the uvula is invisible, being imbedded in false-membrane and slimy deposit. On the hard and soft palate there are shreds of partially-detached false-membrane. The deposit on the gums is increasing: it has, as yet, more the appearance of a tenacious paste than of a leathery skin. The ferruginous medication was suspended. He was ordered to have, every second hour, in a little water, fifteen drops of the compound tincture of cinchona (*Br. Ph.*), and the same quantity of the liquid extract of ergot (*Br. Ph.*) The application, by means of the soft brush, of the glycerole of borax, and the administration of beef-tea and brandy, were ordered to be continued. I also directed that the quantity of brandy was to be increased, within certain limits, if such increase seemed necessary for the maintenance of life.

9 P.M.—He has been very weak, drowsy, and restless during the day. He has had two stools, immediately after each of which he became alarmingly prostrate, requiring the free administration of brandy. The temperature at present is 37° C. The pulse is 128. The respirations are 20.

Tuesday, 7th August, 9 A.M.—He slept a good deal in the night: his sleep was very disturbed. He has had one stool of natural appearance. During the night he had three slight attacks of dyspnœa; and another similar attack, of considerable severity, in the early morning, which subsided after a short fit of coughing, during which considerable pieces of false-membrane were expelled. At present, râles are heard in the larger bronchial tubes. He has also, occasionally, a rough cough. The chest is everywhere of good resonance. The conjunctiva of the left eye is congested, and on the left eyelid there is a slight membranous film. The fauces and tongue are covered with false-membrane, and bathed with slime chiefly coming from the back part of the mouth. The temperature is 37·6° C. The pulse is 120. The respirations are 20: he breathes easily.

Noon.—The plug was removed from the left nostril, as it seemed to be producing discomfort and restlessness. Immediately afterwards, a very fine spray of an aqueous solution of carbolic acid was projected over and around him, some of which fell on his face, and some of which he inhaled. A few minutes after the employment of the carbolic acid spray, he spat out a large quantity of slime, with which were mixed shreds of false-membrane. This spitting was immediately followed by a remarkable improvement in the patient's countenance. On then examining the interior of the mouth and throat, it was found that the uvula, fauces, and part of the tongue had a clean appearance, and were almost denuded of false-membrane. The denuded part of the tongue was red, and showed prominent papillæ. All the denuded surfaces were red, turgid, and very clean. It was observed that the thick and leathery membrane lining and blocking up the nostrils was partially detached, and that it bulged at the edges under the influence of a subjacent fluid. Since yesterday a thin, membranous film has appeared at the edge of both eyelids. Deglutition is now easier than it was during the night.

9 P.M.—The improved appearance of the countenance, so striking, immediately observed after the employment of the spray, hardly lasted an hour. The surfaces then denuded of false-membrane are again covered. During the day there have been three slight and transient attacks of dyspnœa.

Wednesday, 8th August, 9 A.M.—He had a good deal of tolerably quiet sleep after midnight, during which he repeatedly modified his position without awaking: he lay sometimes on the back, and sometimes on one or other side. About midnight there was a recurrence of hæmorrhage from the left nostril, which in two or three minutes ceased spontaneously. The cervical glands of the left side are swollen and painful when touched; and on the right side they are similarly, but very much less, affected. The left submaxillary gland is swollen and tender. The neck generally has an appearance of turgidity which it has not hitherto presented. The left eye retains its congested appearance. The nostrils are less blocked than yesterday. There is a coating of false-membrane on the margins of the eyelids, the tongue, uvula, fauces, and palate. The skin is dry. The temperature is 37·2° C. The pulse is 128. The urine passed at 2 A.M. this morning contained a small quantity of albumen; and urine passed at 8 A.M. also contained it in the same proportion. Till now no trace of albumen has been detected, though the urine has been tested for it at least once or twice in the 24 hours. The patient occasionally, with a great effort, draws a deep breath, and seems to derive comfort from the proceeding. He has since yesterday been taking two or three of these deep inspirations in succession, at intervals of from half an hour to two hours. These inspirations induce slight cough, unaccompanied by expectoration. Moist râles are heard over the chest. Judging that under the circumstances the emetic action of ipecacuanha might relieve the lungs and air-passages, three drachms of the *Br. Ph.* wine were given, with a little tepid water, in three equal parts, with an interval of half an hour between each part. No vomiting was excited; and the patient showed a decided increase of discomfort and depression.

9 P.M.—The desire to take deep inspirations gradually subsided during the day. He is not delirious, but in a condition bordering on it. He is drowsy, and imperfectly conscious, answering questions hazily only when he is roused, and only when the questions are slowly repeated, three or four times, in a loud voice. The temperature is 37·8° C. His pulse is 132, and very feeble. There are moist râles throughout the chest. Urine, passed about an hour ago, is found to have a specific gravity of 1·029, to be loaded with urates, and to be much more albuminous than that passed at 2 A.M. and 8 A.M. He takes his aliment, medicines, and stimulants; but he now has considerable difficulty in swallowing. He cannot speak, and is unable to gargle. He seems to be sinking.

Thursday, 9th August, 9 A.M.—At ten last night he became livid, unconscious; and breathed badly. At his mother's request, a priest was sent for, who administered to him the last sacraments of the Roman Catholic Church. His general state is somewhat better than it was twelve hours ago. He is less drowsy, somewhat conscious when aroused, and makes pretty good attempts at gargling. The temperature is 37·8° C. The pulse is 140. The respirations are 26. The skin is dry. The countenance is free from lividity, and retains the extreme paleness formerly reported. There has been no stool since the night of the 6th.

The false-membrane coating the upper part of the uvula presents a black, gangrenous-like patch. The rest of the uvula and all the visible mucous surface of the mouth and throat are as thickly covered with false-membrane as before the clearing consequent upon using the carbolic acid spray at noon on the 7th August. A grumous fœtid serosity is exuding from both nostrils.

9 P.M.—For about an hour the nurse has observed a little perspiration on the face. At present there is a warm moisture on the face, palms of the hands, and in the axillæ. After a tepid-water enema, he had at 8 P.M. a large stool, consisting partly of hard masses; and he has now—an hour later—had another considerable stool which is semi-liquid. The temperature is 37° C. The pulse is 132; the respirations are 24. The moist râles continue very much as when reported on the 8th. The quantity of albumen in the urine is increasing. Urine passed at 7 A.M. contained more albumen than had yet been observed: that passed at 1 P.M. was still more albuminous; and there was a still farther increase in the albumen contained in the urine of 4.30 P.M. Since that hour he has passed a

little urine, but it was voided unconsciously. All the urine passed to-day has been of a pale straw colour, and of a specific gravity of 1·029. The prescribed treatment has been carried out with exactitude.

Friday, 10*th August*, 9 A.M.—Since last night a striking improvement has taken place in the countenance, manner, and attitudes of the patient. He answers questions promptly, smiles when spoken to, and lies like one at ease in bed. He swallows more easily. From ten last night till one this morning he perspired profusely, the sweat exuding most abundantly from the head and face. At present there is no moisture on the skin, which has, however, no longer a dry feeling to the touch. He coughs a little occasionally. Sometimes after coughing, but also irrespective of coughing—particularly after using the solution of glycerole of borax as a mouth-wash—he has for the last three or four hours been spitting out a good deal of offensive, dirty-looking slime containing numerous small shreds of false-membrane. The surfaces which were covered with false-membrane are now to a great extent free from it. The denuded parts present a red and congested appearance. The nostrils are less blocked up. The left eye is now congested only in a very slight degree. He had two semi-liquid stools during the night, after each of which he became very faint, requiring the prompt administration of brandy and beef-tea. The temperature is 37·2° C. The pulse is 116. The respirations are 22. Having passed his urine only with the stools or unconsciously since 1 P.M. yesterday, no later examination has been made of that secretion.

To have half an ounce of pounded raw beef, with one or two tablespoonfuls of strong beef-tea or juice of meat, and two grains of pepsina porci every four hours. The brandy to be reduced from six to four ounces in the twenty-four hours.

9 P.M.—He has had a good deal of quiet sleep during the day, and at present is drowsy. The skin is warm, and in some places it is a little moist. During the day he has perspired freely from the head and face, but from no other part. The temperature is 37° C. The pulse is 112, and small. The respirations are 22. He breathes quietly and easily. There are no râles. He has had no stool since last night. Urine passed at 4 P.M. was examined. Its specific gravity was 1·029. It contained a large quantity of albumen and urates. On microscopic examination epithelial casts were seen.

Saturday, 11*th August*, 9 A.M.—He passed a good night. The temperature is 36·7°. The pulse is 96—quite as feeble as yesterday. Urine passed at 2 A.M. contained less albumen than that passed yesterday. It was of the same specific gravity.

9 P.M.—He has perspired a great deal during the day. He has slept much, but has always been easily roused to take his aliment, brandy, and medicines; and after taking them, he has generally at

once fallen into tranquil sleep. The temperature is 37·2°. The pulse is 94. A semi-fluid stool of most offensive odour was passed during the afternoon, four hours after taking two drachms of castor-oil.

Sunday, 12*th August*, 4 P.M.—He had a good night, and during the day has at intervals slept comfortably, snoring gently. When awake, he has appeared to be very drowsy. There has been no more perspiration. The paleness of the cheeks and lips is undiminished. For the last two days his countenance and attitudes have been easier, and like those which mark convalescence. The temperature is 36·4°. The pulse is 70, regular, soft, and very compressible.

9 P.M.—The temperature is 36·4° C. The pulse is 92. Urine passed this evening contained only a trace of albumen.

Monday, 13*th August*, 9 A.M.—There is evidently—taking a conjunct view of all the symptoms—a progressive amendment; and yet there is no appreciable increase of strength. When placed, just now, for one minute in a half-sitting posture, he nearly fainted. The skin is everywhere warm and soft; and on the face there is slight perspiration. He coughs occasionally. The nostrils look red and congested; they are now free from false-membrane and slimy discharge. There are only a few filmy pellicular patches on the visible mucous membrane of the throat and mouth. The urine passed about noon contained the merest trace of albumen. Its specific gravity was 1·028. The temperature is 36·4°. The pulse is 84. The respirations are 20.

9 P.M.—The temperature is 36·4°, and the pulse 68. He continued to sleep soundly when his temperature and pulse have now been taken. The paleness of the face continues as when this symptom was last reported.

Tuesday, 14*th August*, 9 A.M.—He slept well, perspiring moderately. The temperature is 36·4° C. The pulse is 70, and feeble. He becomes very feeble when an interval of two hours is allowed to elapse between the times of having brandy or food. The bowels have been opened by two drachms of castor-oil, followed in four hours by an enema of tepid water. There is not the least tenderness or swelling of the cervical, submaxillary, or any other glands. The tongue is clean, and has nearly regained its normal appearance, excepting that it is somewhat redder than natural. The uvula, tonsils, and fauces, though still somewhat red and turgid, have lost much of their congested appearance.

9 P.M.—The temperature is 36·2°. The pulse is 62: it was 54 at 3 P.M. He had about that time become ghastly and faint, which the nurse correctly attributed to his having violated the standing orders by sitting up in bed for one or two minutes when her eye was withdrawn from him. She immediately gave him brandy and water, under the influence of which he soon rallied. It was after he had considerably improved in appearance that the pulse was found to be 54: when he was at the worst it was slower and

weaker; but it was not then counted. During the day he has, at intervals, perspired moderately. The voice has been gradually losing its whispering character during this day.

Wednesday, 15*th August*.—The voice is nearly normal. He continues to perspire a good deal at intervals, particularly when asleep. At 9 A.M. the temperature was 36·4° C.; at 9 P.M. it was 36·4° C. At 9 A.M. the pulse was 84; at 3 P.M., and at 9 P.M. it was 60.

Thursday, 16*th August*.—He takes his food and stimulants regularly; and yet he does not gain strength. If he raise his head for a minute or two from the pillow, he retches and feels faint. As he was apparently getting tired of the monotony of his alimentation, a custard pudding was ordered as an addition. Soon after taking it he complained of nausea and nearly vomited. His alimentation is to be continued as before, excepting that [in accordance with his own request] twice in the twenty-four hours he is to have *café au lait* with buttered toast in place of beef-tea; and that the quantity of raw meat is to be doubled. During yesterday and to-day he has perspired a great deal, particularly in the head and face. To-day a papular eruption has appeared at the roots of the hair and on the forehead. At 9 A.M. the temperature was 36·6° C. and at 9 P.M. it was the same. At 9 A.M. the pulse was 84; and at 9 P.M. it was 72.

Friday, 17*th August*.—At 9 A.M. the temperature was 36·4° C.; at 9 P.M. it was again 36·4° C. At 9 A.M. the pulse was 84; at 9 P.M. (taken when he was asleep) it was 68. Last night he passed urine unconsciously, which till then he had not done since the 9th. It is important to note that when in his ordinary health he used occasionally to wet his bed at night. He continues very pale, and does not seem to gain strength.

Saturday, 18*th August*.—He passed a good night. At 9 A.M. the temperature was 36·2° C.; at 9 P.M. it was 36·8° C. At 9 A.M. the pulse was 88; at 9 P.M. it was 68.

Sunday, 19*th August*.—He passed a good night. At 9 A.M. the temperature was 36·7° C.; at 9 P.M. it was 37°. At 9 A.M. the pulse was 84; at 9 P.M. it was 60.

Wednesday, 22*d August*.—His condition on the 20th and 21st was very much the same as on the 19th. To-day he looks brighter, and not quite so pale. At 9 A.M. the temperature was 38° C.; at 9 P.M. it was again 38° C. At 9 A.M. the pulse was 92; at 9 P.M. it was 76, and of rather improved strength, though still very feeble. He has been kept always in the horizontal position except when on three or four occasions, for about a minute at a time, he has been made to sit up in bed when the heart was being examined. The pulse has then always become feebler and slower: to-day, this effect of the sitting posture on the heart is less decided.

Thursday, 23*d August*.—He passed a good night. He is certainly stronger than he was some days ago. His anæmic appearance continues. The nurse reports that for the last two days he has sometimes experienced difficulty in swallowing, and that she has particularly remarked this in respect to liquids. He has never had any difficulty, she says, in swallowing his bread-and-butter and bits of fish, fowl, or steaks, which he has had twice daily since the 19th. From that date the pounded raw beef has been given only once in twenty-four hours. In consequence of the nurse's remark, I tested the patient's power of swallowing liquids, and was unable to perceive that it was in any degree impaired. I observed, however, that he *expected* a difficulty in swallowing liquids, for on my asking him to drink some beef-tea, he held his nose before he put the cup to his lips. Nevertheless, he swallowed the contents of the cup in my presence without the least difficulty, and without holding his nose. The dysphagia is therefore slight and intermittent. The uvula is sensitive: on touching it with a feather, he vomited food recently taken. At 9 A.M. the temperature was 38·2° C.; at 9 P.M. it was 38·8° C. At 9 A.M. the pulse was 76; at 9 P.M. it was 92.

Friday, 24*th August*.—He complains of pain in the outside of the left arm and forearm, which causes an apparent paresis in the left upper extremity. The seeming want of power probably depends upon movements being restrained by the fear of exciting pain. There is no loss of power in the biceps, which contracts normally without exciting the least pain or discomfort. He has difficulty in retaining the urine when awake, and during sleep he generally passes some unconsciously in the bed. The deglutition of fluids is now unquestionably a matter of difficulty. The voice has become nasal. The temperature was 38·8° C. at 9 A.M.; and at 9 P.M. it was 38·9°. At 9 A.M. the pulse was 100; at 9 P.M. it was 104.

Saturday, 25*th August*.—He passed a good night, till towards morning when he became restless. After the bowels had been opened by castor-oil the restlessness ceased. He complained of sounds in his right ear, like bells ringing, before the medicine operated. The skin is hot and dry. The nasality of the voice has much increased. At 9 A.M. the temperature was 38·8° C.; at 9 P.M. it was 38·4°. At 9 A.M. the pulse was 104; at 9 P.M. it was 100.

Sunday, 26*th August*.—He passed a good night. The movements of the right arm are free and painless. There is a still further increase in the nasality of the voice. The slight difficulty in swallowing liquids remains, but certainly has not increased. On touching the soft palate and uvula, retching was induced. At 9 A.M. the temperature was 39·6° C.; at 9 P.M. it was 39·4° C. At 9 A.M. the pulse was 100; at 9 P.M. it was 92.

Monday, 27*th August*.—Day by day there is a slow but decided increase of strength. He sleeps and eats well. He makes no complaint, and evidently lies in comfort. At 9 A.M. the temperature was 39·6° C.; at 9 P.M. it was 39° C. At 9 A.M. and also at 9 P.M. the pulse was 104.

To discontinue the raw meat and the brandy. To have six ounces of Bordeaux in the twenty-four hours.

Tuesday, 28th August.—At 9 A.M. the temperature was 38·4°; at 9 P.M. it was 39° C. At 9 A.M. the pulse was 104; at 9 P.M. it was 80.

Wednesday, 29th August.—At 9 A.M. the temperature was 38·2° C.; at 9 P.M. it was 38° C. At 9 A.M. the pulse was 116; at 9 P.M. it was 80.

Thursday, 30th August.—At 9 A.M. the temperature was 38° C.; at 9 P.M. it was 37·7° C. At 9 A.M. the pulse was 108; at 9 P.M. it was 80.

Friday, 31st August.—At 9 A.M. the temperature was 38° C.; at 9 P.M. it was 38·2°. At 9 A.M. the pulse was 104; at 9 P.M. it was 84.

Saturday, 1st September.—At 9 A.M. the temperature was 38° C.; at 9 P.M. it was 38°. At 9 A.M. the pulse was 80; at 9 P.M. it was 84.

Sunday, 2d September.—At 9 A.M. the temperature was 37·6° C.; at 9 P.M. it was 37·8° C. At 9 A.M. the pulse was 108; at 9 P.M. it was 88.

Tuesday, 11th September.—Since the 2d, the temperature has ranged between 37° C. and 37·6°; and the pulse between 80 and 98. This morning the temperature is 37° C., and the pulse 84. The temperature and pulse have sometimes been highest in the mornings, but this has not generally been the case. The nasality of the voice increases; it is now so great as often to render his speech difficult to be understood. The power of swallowing is still slightly impaired. There is no paralysis of the muscles of the arms, legs, neck, trunk, or eyes. The bowels are never moved except when castor-oil is given. The urine is frequently passed involuntarily. The patient sleeps and eats like one in perfect health. He sat up for two hours on the 1st September, for four hours on the 2d and 3d, and since that date from six to eight hours daily, going occasionally into the garden. During the last week there has been a daily progressive increase of strength, and a slight return of colour to the face.

Wednesday, 12th September.—He is steadily, though slowly, improving in strength and in appearance. He sleeps well, and takes a sufficient quantity of food. The dysphagia is certainly increasing. Sometimes he experiences greater difficulty in swallowing liquids than at other times; but there is always more or less coughing, and more or less return of the fluid by the nose when he drinks. Semi-solid food he manages fairly well. The nasality of the voice is still increasing. There is complete paralysis of the soft palate; when the soft palate and uvula are touched with a feather or a cold metallic rod, not the slightest movement is excited. There is great intestinal torpor. He occasionally passes his urine in bed when asleep. For the last few days he has been in the garden from half an hour to an hour and a half daily, during the greater part of which time he sits. Urine passed to-day was free from albumen.

He ceased to be a resident patient to-day, and was consigned to his mother's care at home, she being told to bring him to me to the hospital consultations for out-patients at least once a week.

Instructions were given to the following effect:—1. To have a varied and generous diet, including meat, vegetables, and good claret—of the latter eight ounces in the twenty-four hours. 2. To take immediately after each of the two principal meals half a tumbler of water containing twenty minims of the syrup of the iodide of iron (*Br. Ph.*) and three minims of the liquor strychniæ (*Br. Ph.*) 3. To take a dose of castor-oil whenever he was forty-eight hours without a stool. 4. In fine weather to be as much as possible in the open air, carefully avoiding fatigue.

Monday, 17*th September*.—He is not quite so pale as when he left the hospital, and he says he feels stronger. He was examined by me and Dr R. H. Semple of London, who was present at the consultations when the patient presented himself. We found the nasality, dysphagia, and intestinal torpor exactly as described in the report made on the 12th—the day on which he ceased to be a resident patient.

He was ordered to continue, for a week, the treatment exactly as prescribed on the 12th, and then to return to show himself.

Thursday, 20*th September*.—He was brought by his mother to my house that I might see the great improvement which had taken place since the 17th. I found that there was a great return of sensibility to the soft palate, decidedly less nasality of voice, and only slight regurgitation by the nostrils when he drank. There was a striking change for the better in his general appearance within the preceding three days. He gave short answers to questions without nasality. He also read for a minute with only a slight nasality; but after two minutes, the voice gradually failed, and became nearly as nasal as it was on the 12th and 17th.

Monday, 8*th October*.—He was not brought back to me till to-day, the reasons assigned by his mother being that she had had a sufficiency of the medicines ordered, and that since the 20th September he had made daily progress with such rapidity that he was now quite well. The voice is natural; there is no difficulty in deglutition; no constipation; no wetting the bed in his sleep; and a complete restoration of health and strength, with also a considerable return of colour to the cheeks, lips, and gums. He has taken till yesterday the syrup of the iodide of iron, and the liquor strychniæ, as prescribed on the 12th November. There being no remaining trace of paralytic symptoms, the strychnia was stopped; but as the patient still had a pale anæmic appearance, a ferruginous medication was continued, he being directed to take fifteen minims of the *Br. Ph. Liquor ferri perchloridi*, in a tumbler of water, at each of his two principal meals, for three or four weeks.

10th November.—Till yesterday he has taken the iron as prescribed on the 8th October; but now he no longer requires it or any other medicine. His appearance is not anæmic; and his mother states that he is stronger, and in all respects has better health, than before his illness.

REMARKS SUGGESTED BY THE CASES.

1. *Whence came the Disease?*—The two brothers resided with their parents in the same house. After diligent inquiry, I failed to discover any clue to the contagion. No cases of diphtheria had recently occurred in or near their dwelling; nor could it be discovered that either boy had come in contact with any one who was or had been suffering from the disease. As the mother is a laundress, the contagion may have been brought into her house attached to the dirty linen of some of her clients. The laundresses of Paris and of other large towns are great distributors of typhoid fever, diphtheria, and small-pox.

2. *Did Tracheotomy afford any chance of recovery in the fatal case?*—The autopsy showed that tracheotomy afforded no chance of recovery to the patient; but the extensive pellicular invasion of the air-passages below the operation-wound, though suspected, was not known, and could not be ascertained during life. When the operation was performed, death from asphyxia was imminent. The hope afforded by tracheotomy was miserably small; but, under the circumstances, it seemed an imperative duty to give the patient the forlorn chance of recovery afforded by prolonging life, by admitting air into the lungs.

3. *Situation of the False-Membrane in the two cases. What is "Plastic Bronchitis?"*—In the fatal case, the rapidity of the development of the false-membrane on every part of the mucous surface accessible to the atmosphere, and its limitation thereto, are noteworthy circumstances. At the autopsy, the false-membrane was traced down from the trachea into the minutest air-tubes of both lungs. It lined the bronchial tubes, and could be drawn out from them in untorn arborescent bunches. Had this pseudo-membranous deposit existed only in the lungs—had it not been also found on the mucous-membrane of the mouth, nostrils, uvula, tonsils, fauces, gums, tongue, larynx, and epiglottis, or on some of those parts—the case would be generally reported as one of membranous or "plastic bronchitis," a so-called disease, of which, so far as I know, no author has yet given an intelligible pathology. A solution of the difficulty suggests itself. May not the so-called "plastic bronchitis" be a variety of irregular, imperfectly developed diphtheria, having as its chief peculiarity limitation of the pellicular deposit to the *pulmonary* air-passages? The cases which tell most strongly in favour of this conclusion

belong to a class of which I have mentioned a striking example at p. 213 of the second volume of my *Clinical Studies.* A child, aged about two years, died from an illness which lasted six days, and had been treated as pneumonia. Some hours after death I made an autopsy. "The pharynx, larynx, and upper part of the trachea were free from false-membrane. The lower part of the trachea, the bronchi, and larger bronchial tubes, were lined with a tough membrane; on carefully dragging this membrane, an arborescent continuity of the same was drawn from the smaller tubes. A fortnight after the death of this child a sister died of diphtheritic croup. I saw her twice, and had no doubt as to the nature of her malady. In both cases, assuredly, the disease was diphtheria, the only variation in the cases being a difference in the parts of the air-passages on which false-membrane was deposited. In the brother Stock who died, the entire surface of the air-passages was lined with a plastic deposit; in the brother Stock who recovered, the plastic deposit was limited to parts above the larynx The four cases now cited were all unquestionably cases of diphtheria: the case of the child who died with diphtheritic deposit only in the pulmonary air-passages was an imperfectly and irregularly developed case, which, had it not been for the occurrence of the disease in her sister, might not have been so positively pronounced to have been diphtheria.

Is there then any means of recognising a pathological difference between pulmonary diphtheria and plastic bronchitis? Again:—Can any reason be adduced to show that they are not varieties of the same disease? Patients sometimes expectorate firm casts of the bronchial tubes at the close of, or at an interval of, some weeks after slight and severe attacks of apparent bronchitis or broncho-pneumonia. Such cases, commonly known as cases of "plastic bronchitis," are probably cases of irregularly and imperfectly developed diphtheria. Diphtheria, like scarlatina, is a disease peculiarly liable to imperfect and irregular development.

Barth, in the article "Bronchite Pseudo-membraneuse," contributed by him to the 10th volume of the *Dictionnaire Encyclopédique des Sciences Médicales* [Paris 1869], gives as other names by which the affection is known—"Bronchite croupale;" "B. diphtheritique;" "B. plastique;" "Croup bronchique;" and "Diphtherie bronchique." He does not, however, entertain the idea that plastic bronchitis is *diphtheritique* or *croupal*, or in any other sense than that it is *pseudo-membranous.* He says that pseudo-membranous bronchitis is a peculiar and not well-understood disease, which was admitted into nosological tables only twenty years before the date of his article; and, therefore, not till 1849. His remarks on the etiology of the disease lead up to the conclusion I have ventured to express, though this is not intended by the author as appears from the context and from the remarks themselves. He says:—"The determination of the causes of pseudo-membranous bronchitis still leaves much to be desired; and the most important points connected with that subject have not received a satisfactory solution. In analyzing particular cases, we find it stated, that in one and the other, exposure to cold and damp was the immediate determining cause; but we also find that in numerous cases this influence had no existence, and that the disease declared itself without any known cause." . . . . "There is an etiological element which escapes detection, the reality of which, however, is not a matter of doubt, when we consider, on the one hand, the frequently epidemic character of the pseudo-membranous affections of the mucous system, and their frequent transmission from one individual to another, contrasting strongly in this respect with the non-contagious character of simple catarrhal inflammations of these membranes; and, on the other hand, the very remarkable diathesic modification, both primary and secondary, which reveals itself by curious, and sometimes serious, paralytic affections, such as are met with in certain diphtheritic phlegmasiæ."

Is not Barth's description of plastic or pseudo-membranous bronchitis a description of a variety of diphtheria—a variety, moreover, presenting the leading and most distinctive characteristics of the disease?

(*To be continued.*)

ARTICLE VII.—*Note on the Antiseptic Dressing of Wounds.* By ARTHUR FERGUSSON-MCGILL, F.R.C.S., Surgeon to the Leeds Public Dispensary.

MR CHIENE commenced a paper lately read before the Edinburgh Medico-Chirurgical Society with these words, "Antiseptic Surgery at present labours under two disadvantages: the expense of the dressings, and the constant necessity for using the spray-producer." These disadvantages are undoubtedly very real as far as the surgeon is concerned, but after all it is the patient that must be considered, and no trouble or expense should be spared if it be for his benefit. Unfortunately, both the expense and the constant use of the spray are due to the same cause, and this has in many cases a decidedly injurious effect on the patient. Both are due to the necessity which exists for frequent dressings at the commencement of treatment, and these frequent dressings sadly interfere with one of the fundamental principles which should guide us in the treatment of wounds, viz., the maintenance of rest. It is obvious that if the wound has to be dressed daily for the first few days, its chance of primary union must be considerably lessened, and that any union which has occurred may be torn asunder, leaving the healing to take place by the slower process of granulation. Mr Chiene tells us that rest may be insured and expense at the same time lessened by placing sponges inside the gauze. I have not used sponges for this purpose, but have adopted the same principle by placing carbolized tow—the inner layer of which has been moistened with carbolic lotion—between the protective and the gauze. When the wound is of comparatively small size, this proceeding is a great improvement, as four days or more can be passed without a fresh dressing being requisite. I can quite believe that the sponges recommended are better suited for the purpose than the tow; but, in large wounds, I would suggest the following plan which has lately been tried with most satisfactory results.

Remembering that our object is to prevent the copious serous discharge from soaking through the dressings, it is necessary to provide for the removal of this discharge; this can be done by bringing the drainage-tube through the dressings and placing the end in a bottle beneath a small quantity of strong carbolic-acid. I have used a tube of the ordinary kind, the part within the wound being perforated with holes and prevented from collapsing by a wire-coil within it; the part outside the wound has of course no holes in it; it is brought through the dressings and carefully packed with cotton-wool soaked in carbolic-oil—this prevents the possibility of infection by the passage of septic materials by its side. The length of tube outside the dressing is a matter of no moment—a few inches or a few feet may be used according to the nature of the case. If it be necessary to change the bottle owing to its becoming full, the tube can be pinched by the fingers; or, more conveniently, a pair of bulldog-forceps can be applied while the bottle is emptied. The small quantity of air below the forceps is soon rendered aseptic by the carbolic vapour, and the forceps may then be removed.

When a wound is treated in this way, a very large proportion of the serous discharge runs into the bottle (five ounces in twelve hours in a recent case of excision of the breast). A small proportion will exude through the edges of the wound, and can be collected on the sponges or tow as is recommended by Mr Chiene. The dressings might be kept on for a long time, though I think it advisable to change them on the fourth day, as it is then generally expedient to remove the tube. In this way, not only do we save the surgeon expense and labour, but what is more important, we give our patient rest, and increase his chance of a speedy recovery.

ARTICLE VIII.—*Practical Observations on some of the more Common Diseases of Early Life.* By CHARLES BELL, M.D., Fellow of the Royal College of Physicians, Edinburgh, &c.

(*Continued from page* 520.)

SPINA BIFIDA.

THIS malformation has been defined by Mr Holmes "as a tumour situated in the middle line of the spinous processes, formed by hernia of the dilated spinal membranes through a congenital fissure in the arches of one or more vertebræ, and containing subarachnoid fluid.[1] Other authors have described it under different names, such as the hydra-rachis, hernia spinalis, and meningole of the spinal cord—a definition given to it by Foster.

It is characterized by a deficiency of one or more of the laminæ and spinous processes of the vertebra, and it may take place on any part of the spine; but it is met with most frequently on the lower lumbar vertebra, and the first of the sacrum, and the last vertebra of the neck. It varies from the size of a pea to that of an orange; but in some rare cases it extends from the neck to the sacrum. It is transparent, having no covering from the skin; and it varies in colour, being sometimes red: at others it is livid, like a cancerous tumour. It is soft in the centre, but where it joins the true skin it sometimes has a bony hardness like the caput succedaneum. It is usually filled with what is considered the cerebro-spinal fluid.[2] Cruveilhier states that "if the tumour corresponds to the two or three upper lumbar vertebræ only, the cord very rarely deviates from its course, and the posterior spinal nerves are generally the only branches which have connexion with the sac; but if it occupies partly the lumbar and partly the sacral region, the cord itself, and its nerves, will be found intimately connected with this sac;" hence the paralysis which sometimes accompanies this disease. According to Dr Coley, this disease commences as early as the second month of gestation, at which period the process of ossification is liable to be arrested in certain parts.[3] It is remarkable, however, at whatever period it begins, it seems not to affect the growth of the child in utero, as it is in many instances "healthy, often large and very strong," but on other occasions the ankles are weak, distorted, and paralysed.

Although it generally proves fatal in early life in consequence of convulsions coming on, which are more likely to occur if the tumour bursts, there are instances in which a cure has been effected, one of which is reported by M. Gosselin, who states that Dr Lezerie injected the tumour with perfect success in a child of nine months. In this case the symptoms were of an aggravated character, there being paraplegia; and both arms were paralysed. The tumour was as large as an egg, and situated on the lower part of the lumbar region. It burst twice spontaneously. Dr Lezerie used a trocar and canula; and after letting off the fluid, which was of a yellow colour, he injected equal parts of the tincture of iodine and water, and retained the mixture for some minutes. The tumour did not return, the paralysis gradually diminished, and the child was able to run about in two years. The only inconvenience which remained was incontinence of urine.[4]

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[1] *Op. cit.*, p. 76.

[2] Foster, *op. cit.*

[3] *Op. cit.*, p. 435. Also the *Medical Gazette*, 5th July 1844.

[4] *The British and Foreign Review*, No. xxix. p. 208.

Dr Tanner[1] states that the injurious effects of this disease vary according to the situation of the tumour and its contents. When it is situated on the neck, it generally proves fatal in a few days after birth, but it is less dangerous when situated on the lumbar and sacral regions; and there are cases recorded in which the patient lived to twenty or thirty years, and even to the full period of life. According to Chaussier, who had extensive opportunities of observing the malformation at the Maternité in Paris, it occurs about once in every thousand births.

Treatment.—As a general rule, the less this disease is interfered with the better,[2] as any operation is attended with the utmost danger. But when the tumour is increasing in size it is necessary to do something, and the best resource is to puncture it, and then inject iodine, after which compression may be used. In following this practice, however, great care must be taken in puncturing to avoid injuring the spinal cord or any of the nerves.[3] The puncture should therefore be made on the side of the sac or tumour at its lowest part. When pressure is to be used, Tanner recommends an air pad secured by means of a bandage. If the child is weaned, it should have nourishing diet; if still suckling, then a good nurse should be got, and country air will be most beneficial.

NÆVUS MATERNI.

Under this designation is comprehended every kind of stain on the surface of the child's body, whether deep-seated or superficial. There are two kinds of blemishes, however, which are more particularly deserving of attention, which are called the Port-wine mark and the Mole.

In treating of the port-wine mark, it is of the utmost importance to distinguish it from the aneurism by anastomosis; for although in general appearance they are frequently very similar, their anatomical structure is quite distinct; and they require an entirely different mode of treatment. These circumstances will readily appear when we consider that the nævus is composed of capillary veins, while the aneurism is formed of capillary arteries. The nævus is of various colours, being sometimes red like port wine; at others it is of a brown or mulberry colour, hence it is called the mouse, rat, or mulberry mark. Whatever its colour may be naturally, it always becomes of a darker shade during summer. This circumstance has led the ignorant to suppose that the red colour resembling the strawberry or raspberry in shape and colour, becomes darker in the season those fruits ripen. It is generally smooth on the surface, and is very rarely raised above the surrounding skin. It is most commonly situated on the head, face, or neck; but no part of the body is exempt from its occurrence. Its size varies from that of a pin-head to such an extent as to occupy half the face, or even half the body or the whole of the extremity. In general it partakes very much the appearance of the erectile tissue; but it has no power of filling itself. It is very variable in shape, which has led to the belief that it is the result of some impression made on the mother's mind during pregnancy. Some authors deny that it is congenital, and, on the contrary, it is the result of some accident[1] after birth, and that it increases in size as the child grows older. Birkett[2] considers "that the true type of nævus consists of, 1st, areolar uniting cellular tissue; 2d, epithelium; 3d, capillary vessels, as well as vessels of larger calibre; each lobe possesses a distinct and proper capsule, which at its neck becomes blended with the fibrous tissue-skin; strong but delicate fibrous bands intersect each lobe in every direction."

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[1] *Diseases of Infancy and Childhood*, p. 125.

[2] Tanner, *op. cit.*, p. 126.

[3] Hewett, as quoted by Tanner, *op. cit.*, p. 126.

Sometimes nævi undergo a spontaneous change called cystic degeneration, in which the bloodvessels become atrophied, the interior cell being filled with clear fluid. The structure shrinks and loses its dark colour, and the skin covering it presents a warty appearance, and frequently exudes a watery fluid.

Diagnosis.—When situated on the neck, nævus may be mistaken for one of the cysts which occasionally appear there, and are called hydrocele of the neck; and it is difficult to discriminate between them in some instances. It is also liable to be mistaken for medullary cancer, thus proving the importance of making a correct diagnosis.

Treatment.—As a general rule, "if nævus does not occasion any inconvenience or annoyance, and is not increasing, it should be left alone." "But if it is increasing in size, it is to be got rid of. The following means have been suggested for its removal, viz., 1st, to induce atrophy by compression, astringents, ligature of the nourishing artery; 2d, to excite inflammation, and thus obliterate the cells and tissue; to use a seton, acupuncture, lacerating the tissues, incisions, and inserting a sponge, cauterization with potassa fusa or the chloride of zinc, injecting stimulating fluids, puncturing with a probe coated with nitrate of silver, or with a lancet dipped in croton oil, excision, amputating the affected part, such as the lip, prepuce, labia pudendi, or fingers, etc."[3]

If the nævus is situated on the scalp, pressure assiduously applied may prove an effectual remedy. Abernethy used to combine with it cold. Foster[4] asserts that he has found six weeks' continuance of this treatment to remove the blemish. Coley recommends the use of creosote by means of a feather or camel-hair brush once or twice a week. He asserts that he succeeded in removing a nævus which occupied 37 square inches of the abdomen. The great advantage of creosote is that it does not disfigure the skin. He also found nitric acid successful in some instances.[1] Holmes recommends the injection of the solution of the perchloride of iron, but as it acts by coagulating the blood, it is attended by great danger.[2]

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[1] Foster, *op. cit.*

[2] *Medico-Chirurgical Trans.*, vol. xxx.; also *Guy's Hospital Reports*, and Paget's *Surgical Pathology.*

[3] Foster, *op. cit.*

[4] Foster, *op. cit.*, p. 222.

ERECTILE TUMOURS, OR VASCULAR NÆVI.

This is a variety of the deformity just described, but it is much more serious in its nature. It is attended by considerable thickening of the skin, and there is great contortion of the bloodvessels which freely anastomose with each other, forming a sort of bloody sacs. These tumours are always more or less elevated above the skin. They vary in colour, but they are generally of a purple colour. Like the smooth nævi, they may occur on any part of the body; but they differ in their greater tendency to enlarge, and so rapidly in some cases that the tender skin which covers them is ruptured, giving rise to profuse hæmorrhage.

Treatment.—In the treatment of this disease more active measures are required than in smooth nævi, although many remedies are equally beneficial in both forms of disease. When there is a risk of a rupture, cold applications ought to be used along with pressure. Excision may be necessary in some cases, or the artery nourishing the tumour may be tied.[3] It has been recommended by some authors that the tumour should be vaccinated, injections of the perchloride of iron have been suggested by Foster,[4] and Mr Curling has advised a very ingenious mode of applying a ligature.[5]

TALIPES, OR CLUB-FOOT.

There are several varieties of this deformity, which have been distinguished by particular names, such as talipes equinus, varus, and valgus, &c., according to the peculiar twisting of the foot, which depends on the contraction of certain tendons. In the talipes calcaneus the toes are elevated towards the knee, and the heel is depressed and becomes the resting part, and receives the weight of the body in walking. In talipes varus the foot is inverted, so that the patient walks on its outer edge; and in talipes valgus the foot is everted, so that the patient walks on the inner side.[6]

In some instances this deformity is only temporary, resulting from the child having been in a cramped position in utero, and when it gains strength sufficient to stretch itself, the foot assuming its natural position. The accoucheur should therefore be very cautious in forming his opinion, or in expressing it soon after the birth of the child.

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[1] *Op. cit.*, p. 123.

[2] *Op. cit.*, p. 56.

[3] John Bell's *Surgery*. B. Brodie's and Underwood's, *op. cit.*, p. 581.

[4] *Op. cit.*, p. 237.

[5] *Medical Gazette* for January 1850.

[6] Tanner, *op. cit.*, p. 145.

Treatment.—When the malformation depends on contraction of the tendons and muscles it is of permanent character, and it ought to be attended to early in order to apply the most suitable means as soon as possible; for if long neglected, the deformity will become incurable with mild means, and will require a more serious operation for its removal.

The application of pasteboard splints and a bandage has been found beneficial when employed early,[1] friction being used before their application. Should these means fail, it may be necessary to have recourse to subcutaneous tenotomy, an operation which is seldom followed by any bad results even in young infants.[2]

(*To be continued.*)

Part Second.

REVIEWS.

Proteus, or Unity in Nature. By CHARLES BLAND RADCLIFFE, M.D. Second Edition. London: Macmillan & Co.: 1877.

THIS work first appeared a quarter of a century ago, and has been gradually maturing and developing all that time until it has attained, in this second edition, its present more complete form, constituting a handsome volume of 214 pages. The author is a physician of repute in London, who cultivates the *literas humaniores,* and keeps himself abreast with the science and thought of his generation. He has an elegant pen, as indicated specially by the introduction to his book; and all the chapters that follow are filled with accurate information, even although the generalizations drawn from it may not command the acquiescence of every reader. We may tell all who address themselves to the task of understanding and mastering the volume, that it needs "an audience few and fit," because the scientific knowledge implied is very extensive and precise, while the views worked out embody wide conceptions which tax the imaginative faculty, and are not congenial to the practical and utilitarian tendencies of this nineteenth century. The author believes, however, that his audience will become more numerous and more sympathetic as years roll on, and we are disposed to agree with him. At present we may say confidently that he has produced an able and high-toned book, which those who have adequate mental furnishing, and leisure for a careful study of its entire scope, will find well worthy of their attention.

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[1] Dr Little's *Treatise on Club Foot.*

[2] Tanner, *op. cit.*, p. 130.

Illustrations of Clinical Surgery. Plates, Photographs, Woodcuts, Diagrams, etc., illustrating Surgical Diseases, Symptoms, and Accidents; also, Operative and other Methods of Treatment, with Descriptive Letterpress. By JONATHAN HUTCHINSON, F.R.C.S., etc. Fasciculi III to IX. 1876–7: London: J. & A. Churchill.

WE have great pleasure in again directing the attention of practical surgeons to the continuance of this most admirable series of illustrations.

The extraordinary industry and almost encyclopædic information of the author has enabled him to utilize to the full the splendid opportunities he enjoys in the London Hospital—in Moorfields—and at the Skin Dispensary; so that few men are so thoroughly fitted to take charge of and produce such a work.

Fasciculus III. gives figures of inherited syphilis; of so-called mercurial teeth; of cheiropompholyx; and of the state of bones and joints in crippling rheumatism.

Fasciculi IV., V., and VIII. are admirable contributions to the surgery of head injuries—meningitis, ostitis, fractures of various kinds, and compression from various causes.

Fasciculus VI. is a most elaborate monograph on the important and much-debated question of vaccino-syphilis. In it Mr Hutchinson describes several series of cases, and figures the vaccine chancres and eruptions.

Fasciculus VII. is an equally complete work on the curious disease xanthelasma palpebrarum, and eruptions which resemble it, and contains an elaborate analysis of fifty cases.

Fasciculus IX. contains an account of a very curious and rare laceration of cervical sympathetic nerve, with an attempt, perhaps too ambitious to be thoroughly successful, to represent the effects of the injury on the eyelids, eyeballs, and pupils.

We can only express a hope that the financial success of his undertaking may be great enough to encourage Mr Hutchinson to continue publication till his museum and patience are both exhausted.

Every teacher of surgery should subscribe.

Clinique Médicale de la Pitié. Par T. GALLARD, Médecin de l'Hôpital de la Pitié. Pp. 635. Paris: J. B. Baillière et fils. 1877.

THIS volume is principally a selection from the author's clinical lectures, reprinted from the medical journals of Paris. They are neither brilliant nor original productions; but they have merits of their own. They contain excellent clinical instruction, and breathe a just condemnation of a tendency too prevalent—particularly among the younger members of the profession—to neglect the study and mastery of the actual acquisitions of medical science, in searching after curiosities and in trying to make discoveries. We endorse Dr Gallard's bold denunciation of the way in which medical literature is being mischievously encumbered by the trivialities and the pseudo-discoveries of untrained and untaught observers. In medicine, the cry, we admit, must ever be—*Onward, to explore new fields!* To try to contribute to the ever-advancing tide of medical discovery is unquestionably a noble aspiration, and is likewise a duty incumbent upon all the sons of Esculapius. But does not the practitioner too often forget that, before seeking after novelties, it is his duty to make the actual acquisitions of science his own—his available stock of knowledge to assist him in the every-day exercise of his calling. Are not many modern writers only lumbering our literature with reproductions disguised as novelties?

Dr Gallard's volume consists of a preface, an introductory chapter on the scope, aims, and methods of clinical study, and twenty clinical lectures, the titles of which are as follow:—1. Disorders of digestion caused by alcoholism. 2. Dyspepsia from deficient acidity and gastric juice, the result of habitual profuse sweating. 3–6. Simple ulcer of the stomach. 7. Stricture of the œsophagus. 8–10. Hepitatis and abscess of the liver. 11. Treatment of cysts and abscess of the liver. 12. Auscultation of pleurisy. 13. Chlorosis and pulmonary phthisis: efficacy of ferruginous preparations. 14. Aneurism involving the aorta and vena cava superior. 15. Aphasia. 16. Scrivener's cramp. 17. Vaccine. 18. The spots and eruptions of typhoid fever. 19. Poisoning, by sulphuret of carbon, of the workmen engaged in the vulcanization of caoutchouc. 20. The diseases produced by mercury.

Dr Gallard, endorsing Trousseau's admirable precept, insists upon the necessity of students frequenting the hospitals, and being constantly in contact with the sick, during the whole period of their studies.[1] He compares the mode in which clinical knowledge is acquired by the student to the manner in which the child learns to speak his native language. He lisps words before he spells them, or uses them grammatically. Clinical knowledge is acquired in a very similar manner.

"I have spoken to you," says the author, "of the method by which you have all learned to read; and I have pointed out to you that in all the sciences relating to medicine, and which really are its elements, a similar method is pursued; but as yet I have not described to you the method you followed when you were learning to speak. Do you remember that charmingly incorrect language of your childhood, understood only by the intelligent tenderness of a mother? Can you recall those sounds which you reproduced only because they had struck your ear—sounds which you at first reproduced imperfectly; but afterwards as the result of reflection, and with a determinate meaning attached to them, though they were unintelligible to all who were not in your secret? Can you, comparing those broken words with the correct grammatical language which you now speak, follow with exactitude the series of imperfections which you adopted in succession when attaining your present accuracy? Rules were given to you, in due course, whereby to perfect your too primitive infantile language; but you could speak before these rules were imparted. You were taught to speak correctly, but *you were not taught to speak*—far less were you taught your infantile lisping. Speech came to you—it is impossible to say *how*, except that *it was the result of use and habit.* It is by a similar process that you attain the first conceptions of clinical science—a science not to be acquired by spelling but by lisping [*qui ne s'épelle pas, mais qui se balbutie*].

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[1] See Trousseau's lecture entitled—"What is Clinical Medicine?" p. 3, *et seq.*, vol. ii., New Sydenham Society's translation [London, 1869] of *Lectures on Clinical Medicine*, delivered at the Hôtel Dieu of Paris.

"You are not taught the rules of your native language till you are able to pronounce words and construct phrases more or less defective; and, on similar principles, the rules of clinical science can only be useful and profitable to you when you have become accustomed to patients, and when, by living among them, you have learned somewhat to recognise particular phenomena amid the diversity of disorders and the pathological conditions which they present. Do you not pursue the very same method when you desire to learn a foreign language? Do you think that it would ever be possible to speak a foreign language correctly without living for some time among those who use it exclusively? For that reason, in opposition to the rules which would debar you from the hospitals till you have had time to acquire a certain amount of theoretical knowledge by the number of your inscriptions, I would say to you, in the words of Trousseau:—'*Du jour qu'un jeune homme veut être médecin, il doit fréquenter les hôpitaux. Il faut voir, toujours voir les malades.*' Do not omit, for a single day, to follow an hospital visit—even from the commencement of your medical studies—even when you do not understand a single word which you hear spoken at these visits. Time so employed will not be lost: you will become accustomed to see sick persons—to feel the pulse—to place patients suitably for making the different necessary explorations—to interrogate them, and to understand their replies, which is not always easy. You will thus learn—if not to recognise one disease from another, at least to distinguish a state of disease from a state of health. At a later date, when you have completed the study of the accessory sciences, when, having learned anatomy and physiology, you proceed to the study of internal pathology, you will be surprised at the ease with which you understand the most difficult things, and be greatly amazed at the rapid progress you make in the knowledge both of medical and surgical maladies. When, moreover, you come to examine your own patients, you will feel no embarrassment, for you will be able to apply, in a methodical manner, the precepts which you have daily seen in practice."

If the views so well inculcated in the passage now translated are sound, as we believe them to be, it follows that it is of paramount importance to impress them upon the students of medicine. But here we are met by a great difficulty: it is useless to preach up that which is right, when those to whom we address ourselves are forced by higher powers to practise that which is the opposite. The amount of compulsory attendance on lectures is so onerous, and the requirements of examining boards so great, that it is physically impossible for the student of a British school of medicine to attend daily an hospital visit during his entire curriculum; and, indeed, the necessity to be crammed with all sorts of non-clinical knowledge is so great that he is almost obliged to ignore hospital studies till he has spent two or three years in getting through his first examinations; and then, alas! from sheer want of time, clinical cramming must also be attempted as far as the process is possible. The Parisian student is in a different position. If so inclined, he can easily every day attend an hospital visit during the whole period of his curriculum; for "inscriptions" in the Paris School of Medicine, while they qualify for examinations, do not compel attendance on lectures. We are acquainted with an eminent Parisian physician who was prevented by circumstances from attending any medical lectures, except the clinical, when a student. During a prescribed period, and in accordance with certain rules, hospital daily attendance is enforced in Paris by daily signatures; but the presence at lectures is optional. The courses of popular teachers are, however, well attended. Pajot, Jacoud, and others, always speak to crowded benches.

We are very far from desiring to advocate the Parisian graduation-programme, under which medical students are allowed to attend, or abstain from attending, medical lectures. Except for a select and peculiarly placed few, this laxity of system is unsuitable and injurious; but between the two extremes a middle course is open. It is expedient to relieve our students from some of the oppressive number of hours which they are at present compelled to devote to attendance on lectures; and perhaps it is also expedient to moderate considerably the exactions in some of the less practical branches of study, so that students may, during the whole period of their studies, be enabled to pass a portion of every day in looking at patients, hearing them interrogated, witnessing the modes in which they are examined, and observing generally how they are treated by experienced physicians and surgeons.

The titles (which we have given above) of Dr Gallard's clinical lectures show the interesting range of subjects which they embrace.

In the first lecture we have a very valuable account of disturbances of the digestive functions arising from alcoholism. Chronic alcoholic gastritis, an increasingly common symptom in the hospitals of Paris, Dr Gallard treats by opiates, tonics, and alkalies administered internally; by counter-irritation applied to the skin; and by hydrotherapy when the case is obstinate.

The second lecture treats of functional dyspepsia apart from alcoholism. The author shows that indigestion is often caused by perverted action of the glands of the stomach. In addition to the commonly recognised causes of dyspepsia, such as a sedentary life, irregularity in times of eating, bad and insufficient food, and brain-fag, he mentions the excessive sweating to which persons employed in very close and hot workshops are exposed. Persons so circumstanced are, he says, apt to become rapidly the victims of dyspepsia. This he attributes to a diminution in the normal acidity of the gastric juice. He maintains that "alcaline dyspepsia" is almost always the result of excessive sweating: this, he says, is the form of dyspepsia met with in phthisical patients, in great walkers, and in letter-carriers. With respect to the last-named class, we can understand the statement to be true if applied to the British post-office deliverers in our large towns, and in particular in London; but the Paris "facteurs" go their rounds in so leisurely and gossiping a manner, that it can only be an exceptional few of their number who acquire dyspepsia from sweating caused by quick walking in discharge of their duties.

The third, fourth, fifth and sixth lectures, which give an excellent account of simple ulcer of the stomach, we specially commend to the notice of physicians. They are very complete and practical.

The eighth, ninth, tenth, and eleventh lectures are devoted to hepatic cysts. We concur with Dr Gallard in considering aspiration of hepatic abscesses as generally an objectionable proceeding. In some cases only is it suitable. Recamier's caustic method is occasionally advisable. It is usually, however, better to puncture with a large trocar, and then introduce and attach a tube by which the suppurating pouch can be washed out as may be deemed expedient.

We commend this interesting and practical volume to the favourable notice of physicians and medical students.

Notes on the Treatment of Skin Diseases. By ROBERT LIVEING, A.M. and M.D. Cantab., F.R.C.P. Lond. Fourth Edition. Revised and Enlarged. London: Longmans, Green, & Co.: 1877.

IN this fourth edition the chapter on Classification has been re-written; in other respects this little work is the same as the third edition. It is a very good guide on the treatment of skin diseases as far as its limits permit.

Epitome of Skin Diseases, with Formulæ for Students and Practitioners. By TILBURY FOX, M.D., F.R.C.P.; and T. C. FOX, B.A. Cantab., M.B. London: Henry Renshaw: 1877.

THE second edition of this little work being called for in six months after the first, is perhaps the best criterion of its usefulness as a convenient and trustworthy epitome of the subject.

The Use and Value of Arsenic in the Treatment of Diseases of the Skin. By L. DUNCAN BULKLEY, A.M., M.D. New York: D. Appleton & Co.: 1876.

THIS essay is reprinted from the *New York Medical Journal* for August 1876. We noticed it at length last year. A careful perusal of it will well repay any one who wishes to know what has been written on this mineral in skin disease, and in addition the writer's own experience, which has been extensive, stating in what cases it is useful, useless, or harmful.

The Climate of Jamaica. By JAMES CECIL PHILLIPPO, M.D., L.R.C.S. Edin. London: J. & A. Churchill: 1876.

IN this small volume Dr James Cecil Phillippo gives us his experience of the climate of Jamaica. He says, in Jamaica you have a *variety of climate.* Temperature equable all the year round. Gives an account of the diseases encountered, and, among other things, says that phthisis is rare; and those going thither not only receive benefit, but many cases of apparently complete cure of the lung affection are given, if the change of climate is sought sufficiently early in the disease. A short account of the mineral springs is given, with the diseases affected by them. To those going thither in quest of health, a perusal of "The Climate of Jamaica" will find the guidance they require.

Questions and Answers in Materia Medica, Medicine, Midwifery, Pathology, and Forensic Medicine, for the Use of Students Preparing for Examination. By W. DOUGLAS HEMMING, M.R.C.S. London: Baillière, Tindall, & Cox: 1877.

THIS little work will be of considerable use to those who find difficulty in expressing themselves on paper, and for such it is intended.

The Medical Student's Guide; or, Plain Instructions as to the Best Course to be pursued by those Entering on the Medical Profession. With Notices of the Medical Schools and Examining Boards of the United Kingdom. By W. DOUGLAS HEMMING, M.R.C.S. London: Baillière, Tindall, & Cox: 1877.

THIS lengthy title fully explains the purpose and contents of "The Medical Student's Guide."

Examiner in Anatomy. By ARTHUR TREHERNE NORTON, F.R.C.S. Smith, Elder, & Co.: London: 1877.

THIS little volume is written with the object of instructing students in the method of answering anatomical questions. In the compilation, the author gives evidence of his thorough acquaintance with the difficulties which beset the student when undergoing the ordeal of public examination; but whilst we make this admission, we are of opinion that it is a book of little or no practical value. The student can only acquire the knowledge which Mr Norton seeks to convey by the experience which is to be gained by attending class examinations. These are the best preparatory training he can have for his professional tests.

Transactions of the Clinical Society of London. Vol. IX. London: Longmans, Green, & Co.: 1876.

THIS volume, which is carefully got up and of moderate dimensions —204 octavo pages—comprises the proceedings of the Society during its ninth session, October 1875 to May 1876. It ought to have been noticed sooner, as the volume for 1876–7 is already on our table. Forty-five clinical communications appear in the contents, most of them interesting, many of them important. We can refer to a few only, and that very briefly. There is a short paper by Dr Arthur Scott Donkin on a subject with which his name is already honourably associated—the successful treatment of diabetes by the skim-milk method. Two cases are related: one a man of forty-five, the other a girl of ten. The rapid and complete cure effected in both, under a strict adherence to the skim-milk diet, was very remarkable. The author wisely remarks, however, "that it should excite neither disappointment nor surprise, if the treatment fail altogether in long-standing cases where other remedies have been applied, and where the patients are worn out by the disease, and death even impending. Its real value in the future must be tested by the results obtained from it as a *primary* remedy." In connection with this, we would next direct attention to "A Railway Case. Shock from an unexpected descent upon the soles of the feet, followed by paresis of extremities, tremor of tongue and jaw, and persistent *glycosuria*." By Thomas Buzzard, M.D.

The case is well told, and will repay perusal. We are inclined to think that one of Dr Donkin's cases already referred to was dependent on injury of the spinal marrow, although he is himself doubtful on that point. Would not the skim-milk diet be very suitable in railway cases when *glycosuria* is present?

Mr E. Venning relates a "case of congenital, fatty tumour," which merits the attention of surgeons. It was situated on the right buttock of a male child. At the time of birth it was about the size of a pigeon's egg; and when Mr Venning first saw it, eight or nine months afterwards, it was as large as a mandarin orange, of a deep-red colour, elastic to the touch, and rendered more tense when the infant cried. It seemed to be under the gluteus maximus muscle, and was regarded as a nævoid growth. Acting under the advice of Mr T. Holmes, two strong ligatures were passed beneath the base of the tumour and tied tightly over it. This procedure did not ultimately succeed; and it was deemed necessary from the greatly-increased size, although the nævoid character was still suspected, to employ the knife. The tumour turned out easily, and only three small vessels required a ligature. "On examining the growth after removal, it was found to consist of very fine fat, very like fœtal fat, and differing considerably from the usual appearance of a fatty tumour occurring in adults. The microscope showed that it was made up of fat cells enclosed in a delicate fibrous "stroma." We once met with a case which illustrates the preceding. A child of thirteen months was observed to have a globular swelling on his left buttock. It was deep-seated, about the size of a pigeon's egg, and seemed to contain fluid. The late eminent surgeon Mr James Syme saw it at the time, but expressed himself doubtful as to its nature. Subsequently, about two months afterwards, he pronounced it to be a fatty tumour, and said that it would require to be removed. Two months more elapsed and the operation took place. A long incision was made through the integuments. The tumour lay under the gluteus maximus and adhered rather firmly at its inner aspect; but the remainder was easily detached. Only one vessel required a ligature. When removed, the growth was about the size of a turkey's egg. On making a section, it presented an almost pure-white surface, quite different from the surrounding adipose tissue. Professor Goodsir, distinguished as a histologist, kindly examined the structure and reported that he failed to discover anything more than fat held together by a small quantity of cellular tissue. It is more than probable that this tumour was congenital, like Mr Venning's, but escaped notice from its position beneath the gluteus. There was no redness of the skin.

Mr George Lawson publishes an interesting case of a large hydatid tumour of the orbit with protrusion and eversion of the eye. It is tersely and clearly described, and altogether satisfactory in its result. The effect of the pressure on the fundus of the eye is well described. "The swollen optic nerve seemed to stand out from the fundus; the veins and arteries were all extremely tortuous at the disc and far on to the retina. The veins especially were much dilated, and bent abruptly as they passed over the margin of the nerve, and the arteries were apparently enlarged." Vision was much impaired. After an interval of many months, during which Mr L. lost sight of him, the patient returned. The tumour had considerably increased in size; with an indistinct sense of fluctuation, it was readily felt at the upper and inner portion of the orbit. His sight was so impaired that he could only see shadows or tell the windows in the room; but he was unable to count fingers. Mr L. cut down upon the tumour so as to expose it, and then punctured it, when a quantity of clear water escaped, and with it two or three small cysts. He then seized the thick parent cyst with a pair of toothed-forceps and fortunately succeeded in drawing it out entire. It was rather larger than a pigeon's egg. In July 1876 the patient continued quite well.

We had intended to refer to Mr C. F. Maunder's very creditable cases of subcutaneous osteotomy; to Mr George Brown's "case of acute arthritis of the knee-joint and necrosis of the entire shaft of the tibia in an infant eight months old—amputation—recovery," and other papers; but as our space is exhausted, we must content ourselves with recommending the volume to our readers.

The Liverpool and Manchester Medical and Surgical Reports. 1876.

Edited by JOHN WALLACE, M.D.

WE ought to have directed attention sooner to this volume. It is very creditable to the scientific zeal and attainments of the profession in two large mercantile cities where the *genius loci* is generally referred to other spheres. Our space must limit any remarks we have to make to a small number of the papers and cases. There is a short but able and suggestive paper by Mr H. Owen Thomas of Liverpool, on "Non-Union of Fractures." He mentions a new mode of treatment, illustrated by seven well-told cases, which he has employed with marked success. It consists in percussing the seat of non-union with a rubber-protected mallet, the skin being covered during the procedure by a layer of felt. In two of the cases one percussion was sufficient; in the others, it was repeated at intervals of a few days or a week, the limb being meanwhile retained in a suitable appliance for maintaining immobility. We may refer to one case: a man had his leg fractured on board ship on the 23d of February 1874. He had been in the hospital at Halifax for eight weeks, and on his arrival in England, as union had not taken place, consulted a specialist, under whose care he remained for five months. At the end of that period he became a patient of one of the charities for eight weeks, and then on the 14th of May became an in-door patient under Mr Thomas, who performed percussion on the tibia with the effect of consolidating the fracture in six weeks. Messrs Krohne & Sesemann of London supply the neatly-constructed copper-headed mallet designed by the author for these operations.

Two very interesting cases of rare injury of the eye are related by Mr Thomas Shadford Walker. They are accurately described, with commendable terseness and brevity, and are therefore, in our estimation, models worthy of imitation. In one of the cases, the injury was caused by the cork of a soda-water bottle forcibly expelled—a rather common accident. Ten days thereafter, the ophthalmoscope revealed that the mischief done was concentrated in the immediate neighbourhood of the yellow spot. To the outer side of the *macula lutea*, and almost in contact with it, there existed a laceration of the retina and choroid down to the sclerotic, which extended above and below as far as the main divisions of the retinal bloodvessels so as to cross their course. The rent was irregular, being broad in the centre near the macula lutea, and gradually narrowing towards its extremities. There is a good diagram. Tolerable sight was recovered. The other case was that of a cook, aged 60, who slipped her foot and fell heavily forward, striking her left eyeball with great force against the end of a sauce-pan ladle. An extensive laceration of the sclerotic was the result. It was half-an-inch long, about a line from the edge of the cornea, on the inner side. The conjunctiva was not torn, but greatly distended with blood, with aqueous humour and the crystalline lens; a portion of the iris, equal in extent to one-fourth of the whole, had been torn off and disappeared. The edges of what remained were symmetrical, as in a perfect case of iridectomy. The case did well. The patient, three months afterwards, could read with a two-and-a-half-inch lens, No. 1 Jaeger's test-type, with ease.

The Second Annual Report of the Committee for Clapton and Darenth Asylums for Imbecile Children, 1877.

THIS Report records work done under more favourable conditions than has previously been accorded to those who have had the charge of idiot training-schools. Instead of being admitted almost at haphazard, sometimes opportunely, sometimes the reverse, sometimes at one age, and sometimes at another, by the voting system which prevails at Earlswood and similar institutions supported by private charity, the idiots among the London paupers are sent to the Clapton Asylum whenever it is thought that they really require training, or will derive benefit from medical treatment.

The number in the Asylum on the 31st December 1876 was 331, and the number actually attending school was 270, the remaining patients not being regarded as educable. By the enlightened liberality of the committee of management, Dr Fletcher Beach, the able superintendent of the Asylum, was sent last year to America to study the methods of teaching of the schools for the training of idiots in America which are now supported by the several States.

Dr Beach observes, "The registration of epileptic fits, which has been adopted since the opening of the Asylum, shows that the physical and medical treatment of that disease pursued here has resulted in all cases in reducing the number of fits, and in some cases curing the disease. In the latter case it had probably existed only a short time."

The opportunities for studying the pathology of idiocy at Clapton are great, and Dr Fletcher Beach has already shown that he knows how to take advantage of them. "Five cases," we are told in the Report, "have so much improved that early this year they will be discharged recovered." A plan is in contemplation for following them up after they leave the Asylum in order to see whether the improvement they have made here continues when they mix with the outer world.

"It may be said that five is a small number to send out 'recovered,' but it must be borne in mind that the time during which the Asylum has been in operation is so short that little could have been done with sane children; much more, then, does this hold good with imbeciles. The greatest progress is made among the younger children, whose brains appear to respond more quickly to the influence brought to bear upon them, while bad habits can be more speedily eradicated; among those we may look for most recoveries. There are, however, a large number of children in the Asylum who may be improved so far as to be able, when sent home, to do some work about the house, and thus indirectly contribute towards their support. Many of a class lower than this will have learned some employment here, and when sent to the adults' Asylum will not be a dead weight, but will at once be able to do something in return for their maintenance."

Owing to the regulations of the Local Government Board, the pupils who could not be returned to their friends or discharged cured at the age of 16 years, had to be sent to Caterham or Leavesden, where their special training ceased. This arrangement was objected to by the Commissioners in Lunacy and others interested in the welfare of the imbeciles, and it has now been determined to build a separate block for 250 at the new Asylum at Darenth, so as to be able to continue the education of improving cases under Dr Fletcher Beach's care.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVII.—MEETING II.

Wednesday, 5th December 1877.—Dr H. D. LITTLEJOHN, *Vice-President, in the Chair.*

I. *Professor Spence* showed (1) an interesting SPECIMEN bearing on EXCISION OF THE KNEE-JOINT. The patient had his knee-joint excised with an apparently successful result. After he had been out of hospital some time, he returned with an abscess in the upper part of the popliteal space from the presence of diseased bone. This was gouged out twice; but, as the boy was losing flesh, he was obliged ultimately to amputate. On examining the result of the previous excision they would see in front the firm cicatrix, and on section the firm, bony union of the divided parts, as well as the recurrence of the disease at another point. While he was averse to amputation, he still thought that in considering the question of excision or amputation, they should keep in mind the after-occupation of the patient. (2.) The parts removed in a CASE OF EXCISION OF THE KNEE-JOINT. The patient was a young woman, who, while she had considerable pain, did not suffer from much constitutional disturbance. She was now doing well. (3.) A specimen of DISEASE OF TROCHANTER, LOWER PART OF NECK OF FEMUR, AND DIGITAL FOSSA. The patient came in with a large abscess of the thigh, which had opened about four inches below the great trochanter. This was freely incised and the parts carefully examined. No evidence of disease could be found, and the joint was freely movable. The patient, however, suffered from pain when the extension apparatus was removed, and further examination showed existence of disease as above stated, the cartilage of the joint being sound. The question, therefore, was whether to remove the trochanter or excise the joint. In the former case, the head of the bone would have been left loose, and would probably have also become affected with disease, rendering another somewhat difficult operation necessary. He accordingly excised the joint, and the case was now doing well. (4.) A very beautiful preparation of AMPUTATION OF THE FOOT for a tumour involving the metatarsals of the 2d and 3d toes. The patient came in a week ago with a deep-seated tumour in the position already described. He stated that a small tumour had existed there for some time, and had been operated on or incised, but that of late it had grown rapidly. The rapidity of its growth, its dark colour, and the emaciation of the patient pointed to its being malignant; but the existence of the small tumour for some time previous was against this. As little of the foot could be saved, he amputated by Hey's method, disarticulating so far, and then sawing through at the internal cuneiform. On examination there was seen to be softening and opening out of the metatarsal bones. On microscopical examination, Dr D. J. Hamilton found a hyaline appearance with stellate cells. A specimen from the interior of the tumour showed broken-down texture, fat, and blood. It therefore seemed not so malignant; but it was rare to meet with so much congestion and extravasation in a simple tumour. The pain was due to pressure on nerves, as a cutaneous nerve could be seen running across the growth.

II. *Dr Craig* showed a PREPARATION of the right lower extremity of a child which had died twelve hours after birth. It had several malformations, viz., the fibula did not articulate with the tibia at the knee-joint, and there was talipes varus. The most remarkable point was, however, that the tibia appeared to end in a sharp point, two inches below the knee; over which there was in the skin a puckered appearance as of a cicatrix resembling an umbilicus. There was thus no bony connexion between the knee and ankle-joints. An important point for surgeons to decide was, what could be done in such a malformation to render the limb useful. He hoped soon to have the limb dissected so as to ascertain its exact structure for the purpose of bringing it more fully before the Society. He wished, finally, to point out that the limb had been preserved for two weeks in a solution of chloral, 10 grains to the ounce, with the result of being natural in appearance and free from putrefaction.

III. *Professor Grainger Stewart* then showed a case of ADDISON'S KELOID, or SCLERODERMA, as it had been more recently called. The patient was a child nine years of age, and a native of Buckhaven, Fifeshire. She began to complain about fourteen months ago of slight lameness, of stiffness in the joints of her fingers and toes, and of difficulty in supinating her hands. She suffered at the same time from a peculiar, continuous, thrilling sensation in the hands and feet. The parents noticed that the hands, feet, and legs were swollen and pitted on pressure. This œdema subsided after three months; and since that time there had been gradual diminution in the circumference of the parts. About two months after the commencement of the illness, a peculiar alteration in the skin of the right foot was first noticed, beginning on the third toe and gradually extending upwards in a ribbon-like band over the dorsum of the foot, the external aspect of the leg, and half-way up the thigh. It had reached the knee six months after it was first noticed at the root of the third toe. More recently, the skin of the left foot had become symmetrically affected; but the disease had not extended above the ankle. On examination, two sets of lesions would be found. First, certain fibrous structures, viz., the subcutaneous cellular tissue and fasciæ about the hands, elbows, feet, and legs would be found tense and contracted. Certain tendons would also be found shortened, especially the right semi-tendinosus tendon. Owing to these lesions, the fingers were maintained in a semi-flexed position, the hands pronated, and the right leg flexed on the thigh. In the second place, the whole thickness of the true skin had undergone a remarkable alteration in a ribbon-like band extending on the right side from the third toe to the middle of the thigh; and on the left, from the same toe to the ankle. The condition of the skin on these parts resembled very markedly the cicatrix resulting from a burn. In the greater part of its extent it was smooth and dense, somewhat pigmented, and here and there showing a tendency to cracking and scaling in its superficial layers. The case was a very rare one, and seemed to deserve the notice of the Society.

IV. *Professor Annandale* then showed a photograph of a rare CONGENITAL MALPOSITION OF THE TESTICLE IN THE PERINEUM, in which, as far as he knew, this malformation had been for the first time successfully treated by operation. One or two cases were on record where the attempt had been made to replace the displaced organ fully into the scrotum, but always without success. He believed his own success to be due to the use of antiseptics, meaning by this the Listerian method. He made an incision over the displaced testicle and drew it out, together with the tunica-vaginalis. One interesting fact was, that the part of the *gubernaculum testis*, usually attached to the bottom of the scrotum, was in this instance fixed to the ischial tuberosity. He then incised the scrotum and placed the testicle there, retaining it by means of a catgut stitch. At the same time he subcutaneously stitched up the opening in the perineum also with catgut. The result was satisfactory, and the testicle was now in all respects like the one on the opposite side. (2.) A specimen of a SUPERNUMERARY AURICLE from the side of the neck. The patient had a small pediculated tumour about two inches below the lobe of the ear. At first it looked like a small fibrous tumour; but, on examining it and making a section, cartilage was found.

V. *Dr P. A. Young, Portobello,* then read NOTES ON TWO CASES

OF STRICTURE OF THE ŒSOPHAGUS, with pathological report by D. J. Hamilton, Esq.

Dr H. D. Littlejohn said the Society would be glad to hear any remarks on Dr Young's interesting paper. He wished to know if any cause could be assigned for the ulcers. In pathological museums such were due generally to swallowing some impure alkaline solution.

Professor Sanders remarked on the interest of the cases. In regard to the pneumonia, the connexion was important, as it was not uncommon. The cause given was the occurrence of the opening into the left bronchus. The pneumonia, however, was in the right lung. In certain cases it was due to an extension of the inflammation; but in others the theory of some influence through the vagus was fairly borne out. The second case was also suggestive. The cause of simple strictures needed investigation. When a caustic solution was accidentally swallowed, the stricture was usually at the upper end. Stricture at the cardiac orifice would probably not occur from that cause. Mechanical irritation might lead to chronic inflammation of the submucous coat and consequent stricture. When the stricture did occur then the dilatation, hypertrophy, and ulceration ensuing were easily understood.

Professor Spence asked if Dr Young had tried a medium-sized bougie before attempting a fine one. They all knew that in examining cases for supposed urethral strictures, difficulties often arose when small instruments were used, whilst a large instrument would pass readily. As to the seat of simple œsophageal stricture, it was exceedingly rare to meet with it at the cardiac end of the stomach, and it was generally due to swallowing irritants such as alkalies or acids. In the University Museum there was a preparation of œsophagus where the patient had swallowed sulphuric acid. The mucous membrane from the mouth to within a short distance of the cardiac orifice was white and corrugated, and near it, it was charred.

Professor Annandale, as a practical surgeon, wished to refer to one point. While Dr Young and Mr Chiene had extreme difficulty in passing a small bougie, a finger passed through the stricture at the *post-mortem*. This was probably due to spasm, and the question was whether they could not get the instruments more easily passed in such cases by giving chloroform or some other anæsthetic.

Professor Spence mentioned that chloroform had been given in hysterical cases.

Dr Sinclair had listened with interest, especially to the second case, as last October he had one similar to it. The patient was a married woman, who stated that she had gone to the Infirmary where a large œsophagus bougie had been passed, causing her great pain. The diagnosis arrived at was evidently hysterical stricture, as tincture of assafœtida had been prescribed. The patient, however, became emaciated, and died six weeks afterwards from a double pneumonia. On *post-mortem* examination, a small ulcer was found above the cardiac end of the stomach; but no evidence of malignancy. The difficulty in swallowing was therefore entirely due to reflex spasm.

Dr A. G. Miller was interested in the cases, and in Dr Hamilton's report as bearing on the question of the general pathology of stricture. Some years ago he examined several cases of urethral stricture, and found the mucous membrane healthy, but puckered with the stricture in the submucous tissue. He believed that in many cases the mucous membrane was healthy, but rugous. This was important, as it explained how, by Holt's method, a stricture could be split without bleeding.

Mr Bell wished to point out that the late Mr Edwards had shown to the Society a case where there was a tight stricture above the cardiac orifice of the stomach.

Dr Cadell mentioned that he had removed a piece of bacon from the œsophagus of a woman who had some constriction caused by her swallowing potash when a child.

Professor Stewart remarked that, in regard to the termination of the first case, he had noticed two results when he was pathologist to the Infirmary. There might be pneumonia near the stricture from extension, or suppuration around it, so that the patient died of pyæmia, with metastatic abscesses in the lungs and elsewhere.

Dr Young, in reply, thanked the members for their remarks. Professor Sanders had pointed out that the pneumonia was on the opposite side from the perforation. The perforation, however, was very near the bifurcation of the trachea, and therefore matters could easily pass into the right bronchus. In regard to Professor Spence's question, he had used a small stomach-tube first. He thought Professor Annandale's suggestion a good one, and he would certainly have employed chloroform had he suspected ulceration. Mr Bell had spoken of hernia of the mucous membrane through the muscular fibrous membrane. Dilatation was of course quite different.

VI. *Dr Finlay* then read a paper on THE TREATMENT OF CERTAIN CASES OF UNUNITED FRACTURE, which will appear in a future Number.

Mr Spence remarked that the case was interesting as to the cause of non-union, viz., loss of part of tibia, the fibula remaining entire. Still they might have cases of compound comminuted fracture of the tibia with union after necrosis. This depended on the nature of the injury in gunshot and railway and tramway accidents; they had such damage to the periosteum that union was impossible. He objected to Mr Syme's criticism, because he had found Professor Miller's method good. In one case where rest for eighteen months had proved ineffectual, he got union by it. Another method he had used in 1854, in a case in which Syme said nothing could be done, was to bend the arm, project the fragments through an incision, and clip off the ends. The principle was to fracture and not to dissect, and in this case he had perfect union. As to what Dr Finlay had said as to the terrible effects of operation for ununited fracture of the femur without antiseptics, he could only say that after long experience he had never seen such.

Professor Annandale congratulated Dr Finlay on his success. In a case of his own he had wired both radius and ulna so as to prevent immobility and allow of pronation and supination. He would suggest as a friend that the leg should still be kept in an immovable apparatus, as the bones were not thoroughly united.

Dr Finlay thanked the members for their kind criticism.

VII. *Mr Bell* then read a REPORT OF A CASE OF HEAD INJURY PRESENTING ANOMALOUS SYMPTOMS, which will appear in a future Number.

Dr Clouston had seen three cases of general paralysis following on such injuries, and he would therefore direct Mr Bell's attention to the case.

Mr Spence said there might be slight effusion at the base of the brain. He would like to hear Dr Robertson's remarks on the state of the eyes.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING I.

Wednesday, 14*th Nov.* 1877.—Professor SIMPSON, *President, in the Chair.*

The *President*, having in suitable terms, referred to losses sustained by the Society during last session by death and removal, inaugurated the session by delivering an able and instructive address on "The Treatment of Fibroid Tumours of the Uterus" (which appears at p. 577 of this *Journal*).

Dr T. A. G. Balfour moved a cordial vote of thanks to the President for his able, lucid, and exhaustive address, remarking on the practical and valuable character of the paper. His only regret was that Professor Simpson's term of office as President now expired.

Dr Young seconded the proposal with great pleasure. The Society having cordially and unanimously sustained the proposal,

Professor Simpson briefly thanked the Fellows for the reception accorded to his address. The Society then proceeded to private business.

SESSION XXXVII.—MEETING II.

Wednesday, 28*th Nov.* 1877.—Dr DAVID WILSON, *President, in the Chair.*

The following office-bearers were elected:—*President,* Dr David Wilson; *Vice-Presidents,* Dr Peel Ritchie, Dr Angus Macdonald; *Treasurer,* Dr Craig; *Secretaries,* Dr Charles E. Underhill, Dr James Carmichael; *Librarian,* Mr Jamieson; *Members of Council,* the office-bearers and Drs Cappie, Simpson, and T. A. G. Balfour.

I. *Dr Bruce* exhibited a preparation of SUPERNUMERARY FINGERS.

II. *Dr Peel Ritchie* showed a MUCOUS POLYPUS OF THE RECTUM, which he had removed from a patient. A similar polypus he had removed from the same patient, and showed to the Society on a former occasion. The child from whom this polypus was removed was a female three years and nine months old. Bleeding had been present after action of the bowels for nine months. The child, when one year and eight months old, suffered in a similar way, and was relieved by the removal of a polypus the size of a cherry. The bleeding at this time continued for a week or two, and ceased when the polypus was removed. The child remained well for one year and three months, and then bleeding from the polypus shown commenced.

III. *Dr Halliday Croom* exhibited a set of Professor Simon's URETHRAL DILATORS, which he had found of great service in dilating the urethra, so as to admit the finger into the bladder in cases of cystitis and incontinence of urine. One case of this nature had been cured by the treatment; a second case was still under observation.

IV. *Dr Halliday Croom* also exhibited a preparation of a FŒTUS which had died twelve days post-partum from imperforate anus. The case, which had been under treatment by another medical man, would have been a favourable one for puncture, as the rectum ended in a *cul de sac* behind the bladder, and an opening could with readiness have been made.

V. *Professor Simpson* then read for Dr Hamilton of Hawick the following CASE OF SUDDEN PROLAPSE OF THE GRAVID UTERUS:—"I was consulted on the 1st of July by Mrs O., 24 years of age, married, pregnant four months, complaining of a swelling of the right labium pudendi, of pain in the back, and of difficulty of sitting or walking. The swelling she had noticed coming gradually for about ten days; at first she felt the part hot, and on walking, slight stiffness, which had gradually increased. The skin was hot, pulse 100; tongue furred; the bowels had been constipated. On examination the labium was swollen to the size of a goose's egg, red, œdematous, and painful to the touch. No fluctuation could be detected. I ordered opening medicine, rest, and light diet. Professor Simpson I consulted by letter at the time. Two days afterwards fluctuation could be felt, poultices were applied, and the following day the abscess had burst through the vaginal wall. The opening I slightly enlarged, and the part healed rapidly. About ten days after the opening of the abscess (at which time she thought herself perfectly recovered), when lifting a bucket of water, she felt a sudden pain in the back, which compelled her to take to bed. She was able to get up the following morning, but when up she again felt a swelling which she thought similar to the previous one, but without pain in the part. I was then again sent for. She was now complaining of a severe dragging pain across the loins, and of inability to sit, owing to the swelling. She had suffered during the night from vomiting, and had great difficulty in making water. She had a quick pulse, but no increase in temperature.

I found on examination that there had been complete descent of the womb, the cervix distinctly protruding, and the vaginal mucous membrane everted. I attempted replacement in various ways, but without effect. She was kept in bed and soothing medicines given. On the 5th day labour pains set in. I was sent for shortly after they were felt. On my arrival I found the os dilated to admit one finger; in so doing I felt the membrane. I stuffed the cervical canal with a sponge, which I secured by a bandage coming between the legs and over the os, attached at each end to a binder round the abdomen. Four hours afterwards the os was dilated sufficiently to admit two fingers. I was then able to grasp a foot of the fœtus after rupturing the membranes. I afterwards removed the placenta, and there was little hæmorrhage. I then easily replaced the uterus. This patient made a very good recovery. She was confined to bed only twelve days, and since getting up there has been no tendency to prolapse. The prolapse arose apparently in this case from the weak state of the vaginal wall after the abscess. *N.B. 4th Sept.*—There is no prolapse, and the subject of the above notes is in excellent health."

Professor Simpson remarked on the rarity of the case. While elongation and hypertrophy of the cervix with descent was not uncommon, prolapse of the entire organ was comparatively of rare occurrence in the impregnated female. At least, descent of the gravid uterus, causing such an amount of distress as to bring the patient under the care of a physician, was rare; because as pregnancy advanced the uterus usually ascended above the brim of the pelvis. In most of these cases the patient had suffered from prolapse before conception occurred. The only case of that kind which he remembered to have seen where the uterus remained partly protruded ended in a miscarriage between the sixth and seventh month. He had never met with a case where the gravid uterus had been suddenly prolapsed, as in Dr Hamilton's patient. He had that morning seen an instance of what was sometimes mistaken for prolapse of the gravid uterus, in a patient who came complaining of falling down of the womb; but in this case the fundus of the three months' pregnant uterus was at the level of the brim of the pelvis, while the protrusion was formed simply of the hypertrophied and elongated cervix.

The President thought the case a very interesting one, and thanked Dr Hamilton for having brought it before the Society.

Dr Macdonald had little or no experience of such cases. In a patient he was attending at present, he believed prolapse would have occurred had he not reintroduced a Hodge's pessary, which had been previously worn by the patient until between the third and fourth month, when considerable prolapse occurred. Hypertrophy of the vaginal portion of the cervix, although not uncommon in non-pregnant women, was somewhat rare during pregnancy. He had lately met with a case in which hypertrophy was chiefly limited to the median portion of the cervix. This patient had become pregnant.

Dr Underhill had very early in his practice met with one case of sudden prolapse of the gravid uterus in the third month of pregnancy, in a patient forty years of age, who had been long married, and only had one child twenty years previously. The uterus was returned immediately. Pregnancy was not suspected, as there were many symptoms which seemed entirely to negative it. A sound was passed, and a week later the patient aborted. The cervix was found at this time to be more than four inches in length. In a case at present under his care, the patient, a virgin, suffered from prolapse. He was consulted with a view to marriage. Having got married, the patient became pregnant, and it was found necessary to use a disc and stem pessary during the day, the instrument being removed at night up to the middle of the sixth month. He should like to know the opinion of any of the Fellows as to how long in these cases the pessary ought to be worn.

ODONTO-CHIRURGICAL SOCIETY.

Monday, 5th November 1877.—D. Hepburn, Esq., L.D.S., *in the Chair.*

After the usual preliminary business, the President opened the session with the following address:—

Gentlemen,—In accordance with the usual practice in societies such as this, I feel called upon, as your President, to open the session with a few brief remarks; and although these may not lay claim to the title of an inaugural address, I trust they will tend to encourage us to go on in the way we are going, and incite in us a still stronger desire to make further efforts to secure the objects for which the Society was founded, and to which I wish to direct your attention. I shall not trespass upon your time by entering upon the historical details connected with the rise and progress of the Society (with which you must be familiar), but shall confine the few observations I purpose making, to a very short and general review of its objects, conduct, and the obligations which membership entails. I have felt constrained to take up this subject, not simply to satisfy myself that we are moving in the right direction, but with the view of testifying to the fact that the Society is progressing, and that it is doing so because its objects are attainable, and have been carried out in all their integrity. Ten years have now elapsed since it came into existence, and as we are now entering upon another phase in its life, I have thought the time not inopportune for recalling to mind the objects for which it was founded, and the benefit which the members and the profession generally derive from their realization. These objects in our constitution and laws are thus defined:—"The Society shall have for its objects the promotion and diffusion of knowledge in matters connected with Dental Surgery; the furtherance of communications on such subjects by members of the Society; and otherwise to advance the interests of Dental Surgery as a branch of Medicine." I shall say nothing here in connexion with the two first clauses contained in this extract; they are clear and well defined, and their objects are being faithfully carried out in the ordinary proceedings of the Society. The last, however, is of a much more comprehensive character, and might include political action as well as the adoption of a code of ethics fitted to elevate and advance the interests of the profession. While the spirit of such a code is clearly lined out in the "Obligations of Members," as laid down in Law III., no line has been drawn over which we might not step in prosecuting the objects suggested in this last clause. The Society, however, by a tacit understanding, has wisely, I think, refrained from entering on the field of dental politics, believing that the haven of its hopes would be more easily and quickly reached by steering clear of such troubled waters. In doing so, it has secured a platform where all members of the profession may meet, not only for the interchange of ideas upon the theoretical and technical parts of our speciality—which is at once so composite in its character, and so varied in its details—but also for the interchange of those friendly greetings, which tend so much to a right understanding of each other, and the promoting of that unity of feeling and action, without which nothing good or great was ever accomplished. Gentlemen, however much we may differ in dental politics, however divergent our views may be on the many points daily cropping up in the profession, it is a grand thing to feel and to know that in a Society such as this, we can meet to carry out those objects in which we are at one, and which will slowly but surely raise our profession to the honoured position we desire to see it attain. Whether it is a necessity in man's intellectual nature that he must differ from his fellows, we will not discuss; we know as a fact that he does so, and none who desire human progress would wish to see it otherwise; but while we do not desire that these differences in opinion should cease, there is something we would like to see—*men agree to differ.* Now this is a faculty or a habit which may be cultivated, and I know of no better school than a Society such as this, where the subjects brought under discussion are not taken up with the amount of feeling shown in those of a political or religious character. That this training has not been thrown away upon its members I can aver, having, with one exception, been present at every meeting, council, and others since the formation of the Society. During that time I have noticed that the members have gradually come to express themselves much more fully and freely than they were wont to do at our earlier meetings. The papers read before the Society during its comparatively brief career have been many and valuable. It might be invidious to particularize any of these at the present time. Nor do I think it necessary, their merits having already been discussed, and a liberal meed of praise awarded to their authors. Sufficient to say, that some of them contained a large amount of original thought upon the subject treated, and also a great deal of painstaking is evidenced in those in which experiments were necessary to establish the facts brought forward by the writers in support of their views. The discussions to which these gave rise could not be other than instructive and useful to the members, and in their published form must tend to spread that knowledge, which it is one of the objects of the Society to diffuse through the profession. Not less instructive have been the various objects of interest exhibited, the remarks which they have elicited sometimes provoking a discussion, which rendered our conversational evenings not the least valuable of the Society meetings. And I would here earnestly impress upon members, present and absent, the value of such contributions, and the benefit they may confer on the Society in bringing forward such objects, which I hope to see becoming a still more prominent feature in our proceedings. Many may not have the time or opportunity to write a paper, but few have not some case, or object, to which he might not call the attention of the Society in a few written remarks. I trust to see these collected at no distant date, and forming the nucleus for a dental museum in connexion with the Society. In the published Transactions and annual reports, the progress and conduct of the Society may be seen and read with satisfaction, showing, as they do, a gradual and steady increase in members and funds, as well as an executive whose names should be a guarantee for the right performance of their duties, if the success of the Society did not attest it. The only unpleasant duty these gentlemen have been called upon to perform, has been when compelled to refuse admittance to applicants for membership. This, though a painful duty, they felt must be done, believing as they did that the honour and success of the Society must greatly depend not only upon a firm adherence to the letter, but to the spirit of its laws. Such applicants, therefore, as were known to infringe the obligations laid down in Law III., were of course held to be ineligible, and rejected, the Council rightly looking upon this law as the keystone of that bridge which was to carry the members cleanshod over those troubled and turbid waters which lay between them and the higher objects of their aspirations, and for the attainment of which the Society was founded. To all willing to accept and conform to these obligations it is open, no other qualification being necessary. The applicant may have no degree, or he may be the happy possessor of many. In the Society the members are equal, all recognising not only the right of each to practise, but by electing affirming the fact, that each conducts his practice in a way worthy of a gentleman, and the member of a profession claiming to be liberal.

In this cursory glance of the Society, its objects and proceedings, I may not omit the mention of those annual social gatherings at which, with other enjoyments, members have the opportunity to air their views on points in dental politics—a privilege from which, as I have said, we wisely abstain at our more scientific meetings. I think few of us can look back on such meetings otherwise than with pleasure, combining, as they do, the free expression of opinion on the subjects reviewed, with the interchange of those friendly feelings which ought to subsist between members of the same profession.

It is with a sad feeling, but at the same time with a feeling of satisfaction, that I have to record the fact, that since the time the Society began its work, we have only lost one member by death; but his loss was a great one,—I allude to my friend and our first President, Dr Thompson, a man who took the deepest interest in its success, ever ready to help in time of need, sparing himself at no time and in no way to secure this object. Let us hope, whoever shall fill this chair when another decade has passed away, will be able to report, that in that time not even one has gone from among us. Gentlemen, the privileges to which I have alluded, and others which as members we enjoy, entail certain obligations which we are bound to recognise, obligations which bind each to all, and all to each; the unity which this implies will alone give us strength to carry out the objects of the Society, which as members we have pledged ourselves to do. To secure these, there must be a thorough ignoring, a forgetting of self in the desire for the general good. We older men may not hope that anything we can now do will beneficially affect ouselves or our position, otherwise than by a reflex action, which is the outcome of all good work; for we cannot benefit others without in some way doing good to ourselves. To avoid disappointment, we must open our eyes to the fact that we are working for the future, for those who shall come after us, and to effect anything, we must work, and work together. This unity will give us strength, and that strength will make us a power to be seen and felt by the public; until this is so, individual effort will be vain. We must unite to conquer, we must deny ourselves, if we would make the Society a success. And, gentlemen, the object is worthy all our efforts, for upon the success of such societies the future of the profession must greatly depend, as they may truly be said to be the foster-mothers of its intellect and morality, conferring on their elected children at once position and an honoured name. Gentlemen, we have lately seen—and are daily seeing—if the history of our profession did not proclaim it, what sacrifices its leaders are willing to make, have made, and are making for its advancement. Let us strive to emulate their labours each in his own way according to his capability, remembering that each small nail serves its purpose, and to the fulness of its capacity strengthens the ship. The largest plank can do no more; nay, if weak or unsound, it endangers the whole vessel, and the lives of those who trusted in it. Happily we have no such dread responsibility, but we have each a work to do, and if that work is worth doing, which in becoming members of this Society we have declared it to be, then, gentlemen, it is worth doing well.

At its conclusion, a vote of thanks was given to Mr Hepburn for his address, which, it was resolved, should be published with the

Transactions, and circulated in the profession. The rest of the evening was occupied in the discussion of Mr Campbell's paper on *The Preparation of the Mouth for Artificial Teeth*, and the exhibition by Mr Watson of several cases successfully treated, in which he had extracted teeth, carefully excavated and cleaned out the carious parts, then plugged and replaced them in the mouth. The patients were young boys.

Part Fourth.

PERISCOPE.

Hydrophobia and Rabies.—The Committee recently appointed by the Scientific Grants Committee of the British Medical Association "to organize an inquiry into the Causation, Pathology, and Treatment of Rabies and Hydrophohia," consisting of Mr Callender, F.R.S., Dr Burdon Sanderson, F.R.S., Dr T. Lauder Brunton, F.R.S., Mr Ernest Hart, and Dr Gowers, desire to announce that they will feel favoured if any medical gentleman having under his care a case of hydrophobia will kindly communicate with them. In any cases of hydrophobia or of rabies in which a *post-mortem* examination is made, they will be glad to receive for investigation the following parts, namely, the spinal cord, medulla oblongata, and pons Varolii, a small piece of the cerebellum, corpus striatum, convolutions, one of the salivary glands, the nerves leading to the part bitten, and the scar. These should be at once placed in a mixture of equal parts spirit and water (or, if the organ be at all softened by commencing decomposition, in a mixture of three parts of spirit to two parts of water), and forwarded with as little delay as possible, together with a report of the *post-mortem* appearances, to the Office of the British Medical Association, 36 Great Queen Street, London, W.C.

The members of the Committee are also anxious to have the opportunity of visiting cases of hydrophobia under treatment, or of attending any *post-mortem* examination in fatal cases.—*British Medical Journal.*

Mader (*Centralb. f. Chir.*, No. 24, 1877) found he could produce anæsthesia of the back of the hand by injecting a 2 per cent. solution of carbolic acid under the skin, and hence proceeded to try its effects in various painful affections. The pain and swelling of arthritis rheumatica rapidly subsided after its use in some instances, but ultimately returned, rendering reinjection necessary. In some cases of this disease the effects were doubtful, and in one injurious. In muscular rheumatism, pleurodynia, pneumonia, and pleurisy, it usually exercised a quieting influence. Upon erysipelas migrans it had no effect.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

[The author of these Reports will be glad to receive any books, pamphlets, or papers relating to Materia Medica or Therapeutics. They may be forwarded through the agencies of the *Edinburgh Medical Journal.*]

BICARBONATE OF SODA IN THE TREATMENT OF BURNS.—At a recent meeting of the Massachusetts Dental Society, Dr Waters of Salem, wishing to demonstrate the effect of bicarbonate of soda on burns, dropped some boiling water upon his wrist, thus producing two scalds. He then dusted the soda on the wounded surface, and the pain was almost instantly relieved. The scalds healed in a very short time, only a slight discoloration of the skin being noticed on the day following the experiment. Dr Coleman Rogers, in referring to this case in the *Louisville Medical News*, reports a case of burn of the second degree, successfully treated by the same remedy, which, it may be remarked, is to be found in almost every kitchen.—*Medical Examiner,* 6th Dec. 1877.

UNGUENTUM PETROLEI.—The firm of Allen & Hanbury have recently introduced a new American preparation of petroleum in the form of an ointment, which will probably in a short time supersede the use of lard as a basis for all the ointments commonly in use. It is not changed by exposure to ordinary variations of temperature or climate, and it will not ferment or turn rancid.—*Medical Examiner*, 6th Dec. 1877.

ATROPIN AND DATURIN.—Dr Pöhl states that Planta has demonstrated the identity of these two alkaloids, since not only is their composition and reaction the same, but their physiological action is in both instances alike. And although Schroff, Lemaitre, and others have demonstrated some not unimportant differences in different specimens, these substances would appear, from the experiments of Von Hager, to testify to the greater freedom of English atropin from a second alkaloid termed belladonnin by Hübschmann. Nevertheless, Erhardt has demonstrated certain differences between the crystalline forms of atropin and daturin; Pöhl adds, that whilst daturin turns the plane of polarization of light to the left, atropin is optically inactive. Moreover, whilst atropin as salts are precipitated by platinum chloride, those of daturin are not. The opposite is obtained in the case of picric acid. Pöhl therefore entertains some doubt of the identity.—*St Petersburgh Medical Zeitschrift,* No. 20, quoted in the *Practitioner* for Dec. 1877.

BROMIDE OF ARSENIC IN THE TREATMENT OF EPILEPSY.—Dr T. Clemens states that he has employed this remedy for twenty years, in the treatment of epileptic attacks, with astonishing success. He administers one or two drops of the solution in a glass of water once or twice a day, and has no hesitation in continuing the use of the remedy without interruption for months or even for years, feeling satisfied that no symptoms of the toxic influence of the drug will be experienced. All the cases of epilepsy thus treated underwent marked improvement, though complete recovery only occurred in two instances. In incurable cases complicated with malformation of the head and with hereditary predisposition, the number of daily attacks has greatly diminished under the use of the medicine. An increase in the dose, such as is required when bromide of potassium is prescribed, is not requisite in the case of bromide of arsenic. The solution Dr Clemens employs is made by taking 3·75 grammes of arsenious acid and carbonate of potash, which are dissolved in half a pint of distilled water gradually raised to the boiling-point. The volume of the solution is raised by the addition of water to a total of 360 grammes. To this solution 7·5 grammes of pure bromine are added. After the mixture has stood for some considerable time it becomes clear and colourless.—*Deutsche Zeitschrift für Praktiche Medicin,* 22d Sept. 1877, quoted in *Practitioner,* Dec. 1877.

ALCOHOLIC DRESSINGS IN WOUNDS OF THE SCALP.—Professor Gosselin, in a recent clinical lecture, called attention to a patient with an extensive contused wound of the scalp, unaccompanied by detachment or denudation. He did so because it was an example of the rapid healing of such wounds which has been so frequently observed under dressing with pure alcohol, without the development of any different or erysipelatous inflammation. The rapid cicatrization that takes place is not the result of healing by the first intention, for the edges of the wound still remain a little apart, while the lips and bottom of the wound give issue to sanguinolent sero-purulent in no wise resembling good pus. This secretion gradually ceases, and the wound becomes dry without ever having been covered with granulations. This mode of cicatrization in wounds of the head especially occur when these are dressed with pure alcohol, other modes of dressing requiring the formation of granulations for healing. Whatever this dressing may be with regard to other parts of the body, in wounds of the head it seems to be that which gives the patient the most protection from consecutive accidents, and leads to the quickest cicatrization. So treated, these wounds have less tendency to inflammation and suppuration, are cured quickly, and are less often attended with erysipelas and phlegmonous inflammation.—*From the Medical Press and Circular,* 5th Dec. 1877.

ERGOTIN IN GOITRE.—Dr W. Pepper, in the *Boston Medical and Surgical Journal,* recommends the hypodermic injection of from 6 to 10 minims of a solution containing 96 grains of ergotin to the ounce of distilled water in the treatment of goitre. The injection is repeated two or three times a week for the space of four or six months, when the gland becomes thoroughly hardened. It is in cases of simple enlargement of the thyroid gland that ergotin has been found useful. It is of no use in bronchocele. He also recommends it in tonsillitis and adenitis.

Choleate of Soda as a Medicine.—Dr W. C. Van Biber reports five cases (*Trans. of the Med. and Chir. Faculty of Maryland*) to show that choleate of soda may act as a substitute for the bile when this secretion does not enter the duodenum. This he considers to be most desirable in cases of chronic jaundice. In these cases the use of the remedy improved the digestion, and the author's theory is that it acted as a substitute for the bile. He recommends choleate of soda in certain cases of dyspepsia, dependent on functional derangement of the liver; and in chronic jaundice, when it is evident that a sufficient amount of bile is not poured into the duodenum. He refers also to the use of the choleate, as proposed by Dr Dabney, as a preventive of the formation of gall-stones.—*British Medical Journal*, 6th Oct. 1877.

Electricity for Sleeplessness.—Vigoureux asserts that he has obtained good results in treating sleeplessness by means of electricity, failing only when sleep has been disturbed or prevented by severe dyspnœa. He places the electrodes on both temples, and allows the current of from three to five Trouve's elements to pass for a half or a whole minute.—*Allg. Wiener Med. Ztg.*, quoted in *New York Medical Journal* of November 1877.

Benzoate of Lithium in Gout.—This substance has been recommended in the treatment of gout, on account of its solubility in water, and its great effect in counteracting the secretion of the uric acid.—*Rev. de Therap. and Memorabilien*, No. 6, 1877, quoted in *New York Medical Journal* of Nov. 1877.

Hypnopoietic.—A new solution of opium, bearing the name of hypnopoietic, has recently been introduced by Messrs Richardson and Co., manufacturing chemists of Leicester. It is free of narcotina and the resinous elements, and is made of a strength corresponding to the tincture, so that the dose is the same for both preparations. It is superior to the tincture, in that it is not so liable to produce headache and nausea.—*Medical Press and Circular*, 28th Nov. 1877.

Picric Acid in the Treatment of Fissure of the Breast.—M. Charrier utilizes (*Cannes Médical*) the hardening properties of picric acid in the treatment of mammary fissure. He paints the fissure once a day with a solution of thirty parts of picric acid to 1000 of water, and also immerses the nipple in a little glass filled with a solution of picric of one part per 1000 after each time of suckling.—*British Medical Journal*, 6th October 1877.

Formula for Pills of Quinine.—In a communication to the *American Journal of Pharmacy*, Mr H. P. Reynolds speaks very highly of the following formula for the preparation of quinine pills. Sulphate of quinine, gr. 600; tartaric acid, gr. 100; glycerine, mins. 75. Rub the quinine and acid together in a mortar to a fine powder, till no appearance of crystals remain; add the glycerine, and continue the trituration till the powder becomes adherent, when it should be beaten into proper form for handling, and divided into the requisite number of pills. The mass is firm, solid, rolls well, does not set for some hours. The pills will be found quite small for their weight, very white if rolled in starch powder; and however dry or old they may become, they remain perfectly soluble.

Part Fifth.

MEDICAL NEWS.

We understand that Dr J. Bell Pettigrew, F.R.S., Dean of the Medical Faculty, and Professor of Medicine and Anatomy in the University of St Andrews, has been elected by the Universities of Glasgow and St Andrews as their representative at the General Council of Medical Education and Registration of the United Kingdom.

The Warren Prize.—The Warren Prize Committee, consisting of the Visiting Physicians and Surgeons of the Massachusetts General Hospital, have awarded the prize of the present year, amounting to $371.41, to E O. Shakspeare, M.D., of Philadelphia, for an essay *On the Healing of Arteries after Ligation.*

The Committee also announce that the subject for 1880 will be Original Observations in Physiology, Surgery, and Pathological Anatomy.

Essays should be forwarded to the Resident Physician, Massachusetts General Hospital, Boston, on or before 1st February 1880. The amount of the prize will be $400.

Royal Medical Society.—At a meeting of the Society held on the 23d ult., the following gentlemen were elected annual Presidents:—Robert Roxburgh, M.B., L.R.C.S., Johnson Symington, M.B., M.R.C.S., David Hart, M.B., C.M., George A. Gibson, M.B., D.Sc.

Medical Students of Paris: Their Number and Nationalities.—Having received the following interesting statistics of the Medical School of Paris from a reliable source, we can vouch for their accuracy.

Number inscribed at 1st December 1877—4796. Of this 4796, there were 4358 French and 438 foreign students. Included in the 4796 are 21 female students, of whom 5 are French, 5 English, and 11 of other nationalities.

The nationality of the 438 male and female foreign students is as follows:—

Austria and Hungary	9	Greece	12
Great Britain and Ireland	21	Portugal	2
America (including United States, Canada, and South American Republics)	184	Prussia	6
Armenia	8	Roumania	79
Bavaria	1	Russia	18
Belgium	3	Poland	20
Spain	6	Servia	4
Egypt	10	Switzerland	13
Italy	3	Turkey in Asia	9
Ionian Islands	2	Turkey in Europe	21
		Total,	438

The number of examinations conducted by the Faculty—exclusive of the examinations of midwives—during the scholastic year 1876–77, up to 1st December 1877, was 6360. This includes the various examinations for the degree of Doctor of Medicine, and "*Officier de Santé;*" also the "*fin d'année*" examinations, or examinations which every student must pass at the end of the scholastic year to entitle him to take out another year's inscriptions.

The number of Doctors of Medicine received during the scholastic year of 1876–77 was 553. The number of *officiers de santé* received was 15. The doctorate entitles its possessor to practise in France and its colonies. A diploma of *officier de santé* only gives a right to practise within the department in which it is issued. This inferior qualification is easily obtained from local boards of examination, and is not much sought after in Paris.

OBITUARY.

DEATH OF DR BARTH OF PARIS.—This excellent man and justly-celebrated physician died at Paris on 30th November 1877, in his 72d year. He was the author of medical works of great value, and was joint author with Dr Henri Roger of the well-known *Traité Pratique d'Auscultation, suivi d'un Précis de Percussion.* In reviewing this work on its appearance in 1841, we said:—"We must still have recourse to the French for the best treatise on the diagnosis and pathology of thoracic, at least of pulmonary, diseases; and we again refer to the work of MM. Barth and Roger as a better introduction to the study of diagnosis than any with which we are acquainted in our own language." [Vol. for 1841, p. 281.] The work has passed through many editions since the lines now quoted were published thirty-six years ago, and has been translated into English and other languages. It holds its place in Paris both among practitioners and students as the best book of its kind on auscultation and percussion; and it also remains a favourite text-book in British schools of medicine. Dr Barth was for many years the friend and physician of the great author and statesman Thiers, whom he attended in his last illness. He was elected in 1872 to the chair of the Academy of Médecine. Dr Barth had never shaken off a liability to attacks of pernicious fever, contracted two or three years ago in Rome; and to that malady his death is attributed.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Some Conditions which Simulate Organic Disease of the Heart.* By J. MILNER FOTHERGILL, M.D., Edin. London.

(*Read before the Kent Medical Society, 4th January* 1878.)

WHEN invited by your president to read a paper before the West Kent Medical Society, my first thought was what subject could I bring forward that was worthy of your attention. Being engaged in preparing a second edition of my work on the *Diseases of the Heart*, it struck me that the subject of the conditions which simulate organic disease of the heart might not be without interest for you. The gravity which surrounds all cases of organic disease of the heart, and especially of its walls, gives these simulative conditions great importance in the eyes of careful practitioners. They know that if they fail to recognise the presence of organic changes, not only do they expose themselves to the risk of their professional knowledge being called in question on the discovery being made; but that the patient and his interests may and probably will suffer in consequence. If such disease exist and be not detected, the patient may pursue a course of life most prejudicial to his chances of existence and to his material interests. In my own experience, I have found it often a matter of the greatest moment and withal of difficulty, too, to answer the question put by the patient "What are my chances of life; as I shall arrange my business affairs accordingly?" It is clearly the duty of the medical adviser in such cases to be very careful, as on his answer may hang the fortunes of the patient's family. Even where pecuniary interests are not implicated, the patient has a distinct claim on our utmost consideration, as his chances of life may rest largely on the answer given. By care life may be prolonged; by the absence of proper care life may be cut short, even when it is clear that under the most favourable circumstances it cannot be very prolonged.

On the other hand, much misery and much injury may be done by an erroneous diagnosis in the opposite direction. If the medical adviser thinks that there are grounds for suspecting fatty degeneration, he may give advice which may be very pernicious. He may disturb the patient's mind by creating the impression that he is the subject of an insidious disease of the gravest character, liable to terminate very suddenly; and so make him wretched without cause. He may cause the patient to arrange his monetary affairs in a way that shall be very detrimental to his interests. In fact, for every thinking and conscientious practitioner, the question of the presence or absence of structural change in the heart walls is one of the utmost gravity. Such being the case, it may be well to review some conditions which are very liable to be mistaken for organic disease of the heart, and especially fatty degeneration.

Before doing so a few words on fatty degeneration may not be out of place. In the first place, fatty degeneration must be discriminated from fatty accumulation in and upon the heart. Fatty degeneration means the molecular decay of the muscular fibrillæ, which, in advanced cases, are converted into a string of beads of fat. Some fibrillæ are much more affected than others, of course; but, in time, the degeneration spreads so extensively that the heart fails to contract upon its contents, and instant death is the result. Such fatty degeneration is most commonly found as the finale of a long history of hypertrophy with atheromatous arteries, and especially disease of the coronary vessels. But it is not always so associated; and there may be no evidence of any pre-existing hypertrophic growth. In the absence of such history the diagnosis may be very difficult. The diagnostic indications of fatty degeneration of the heart are put as follows by Dr Hayden, whose carefulness of observation no one will call in question:—"There is, in all cases, evidence of partial failure of the circulation, under the form of weak, irregular, intermittent, or very slow action of the heart and radial pulse; precordial oppression or pain of an intermittent character, the latter frequently extending down the left arm as far as the elbow; palpitation on making any unusual effort, physical or mental; inability to resist the operation of heat or cold, or preserve the thermal equilibrium under extremes of temperature; pallor of surface; readiness to perspire; and recurrent syncope." The physical signs are the alteration of the first sound of the heart, which is always short and faint: the restriction of these sounds to a limited area within which alone can they be heard; and "the absence of impulse or its extremely feeble character." Such, then, are the subjective and objective phenomena exhibited when the heart is undergoing structural decay.

In this age of physical examination, when a diagnosis rests mainly, and often exclusively, upon physical signs, the subjective phenomena are regarded as of secondary importance; if, indeed, they be not rarely put out of court as witnesses whose testimony is of no importance. With the physical signs as his main guide, the practitioner, when brought face to face with certain conditions, is often in a very difficult position when called upon to answer the question, "Are the heart walls sound?" To this momentous question it is confessedly difficult, in many cases, to make any answer with confidence; and yet it is of stupendous importance to the patient to have an answer, and, still more, a correct one.

Such being the case, it may be well to review those conditions which simulate fatty degeneration of the heart, and which are liable to be taken, or mistaken for it. In the first place, there is a condition of temporary debility of the heart, which is the most common source of error. Stokes goes so far as to say, "It would be difficult or impossible to draw a line of distinction between the signs of simply weakened heart, and this condition combined with fatty degeneration." And this difficulty is experienced by all; and if so great a diagnostician as Dr Stokes has felt the difficulty, it is no wonder if an ordinary mind occasionally falls into error. Certain it is that there are times when one feels that, so far as the physical signs go, it is impossible to get rid of the fear that there is fatty degeneration in the case. The lack of impulse, and the faint character of the first sound, are very suggestive; and when to these are added breathlessness upon exertion, inability to sleep with the head low, and a readily compressible pulse, the case looks dark indeed. There is certainly present cardiac debility; there may be also present structural decay. How is the presence or absence of the latter to be made out? Certainly not by the physical signs. We are left then to the surroundings of the case, and these will not always release us from our difficulties. When these signs are found in young anæmic women there is no great difficulty. Walsh says, "This state of things, which I have principally seen in young females, and often in connexion with disordered menstruation, is curable by attention to the states of the uterus, and by the tonic invigorating plan of treatment." It is clear that in conditions of general mal-nutrition of the muscular system the heart must be involved; and its imperfect nutrition will manifest itself by evidences of debility and functional impairment. In such cases, the well-known absence of structural disease, as demonstrated by experience in the dead-house, will suffice to settle the question without much doubt. We know, too, also from pathological experience, that the heart is much weakened in fevers, especially relapsing and puerperal fevers. Indeed, a condition of acute fatty degeneration is produced by a very high temperature maintained for any length of time. Patients recovering from relapsing fever sometimes die suddenly when walking about the wards of fever hospitals, from sudden failure of their weakened hearts. But in these cases there is nothing special, nothing different from the other cases which recover; unless it be in the amount of softening which has gone on in the heart. The heart structures, then, are liable to become degenerate in acute disease, and from this condition they recover as the general convalescence progresses. This form of temporary debility of the heart, with its accompanying signs and symptoms, also is free from any great difficulty in diagnosis. But there are forms of cardiac asthenia where it is next to impossible to say whether there is irremediable degeneration, present or not. They occur in elderly persons whose arteries are far from being above suspicion; where the *tout ensemble* would almost favour the view of fatty degeneration being present. In my experience the case is most frequently of this kind. An elderly person is not very well and calls in medical aid. The complaint is of general languor, and malaise, loss of appetite, disturbed sleep, some thirst, dyspnœa experienced on any exertion, and a certain shortness of breath. There is no pyrexia, and no obvious disease. The pulse is found to be feeble and readily compressed, and it is affected by assuming the erect posture. Naturally, the heart is examined. Its impulse is felt to be absent entirely, or if present, very feeble. The first sound is very slight and distant, and less audible than the aortic second sound; it also can only be heard over a very limited area. These signs, taken along with the subjective symptoms, will make any man hesitate and doubt. It is prudent, certainly, to be cautious in such a case, and give a guarded answer. Only time and the effects of treatment can demonstrate that the suspicion of fatty degeneration is not well founded, and that the case is being misinterpreted. One very striking case in point occurred to me some time ago in an old gentleman whom I knew well. For my life could I be sure whether his case was one of cardiac asthenia only, or that fatty degeneration was present. However, the general condition was treated by rest in bed, suitable food, and the administration of tonics. In time the heart's sounds became normal; and not only that, but a distinct aortic systolic murmur became audible, and remained so long as I attended him, and was found by the medical gentleman who attended him when I left the neighbourhood. When the old gentleman recovered his usual health, it was found that there was a fairly good hypertrophied heart; which for several years longer struggled so successfully against the aortic stenosis as to permit him to walk about his garden and enjoy life.

At other times, conditions of cardiac asthenia, presenting the physical signs of fatty degeneration, may arise from sedentary labour of a prolonged character, combined with too short hours of sleep. Some four years ago a well-marked instance of this came under my notice. A gentleman, engaged in a business which did not call for much physical exertion, but which entailed long hours of desk work carried far into the night, found himself growing scant of breath, and only able to walk slowly, especially after a meal. He was a stalwart man, weighing some fifteen stones, grey-haired, and gouty. His heart sounds were very faint and feeble, and the impulse not to be felt through his massive chest walls. His pulse was fairly good, being exaggerated by atheromatous vessels. A suspicion of fatty degeneration was not ill-founded in such a case, and indeed a diagnosis to that effect had been made by a physician whom he had consulted.

Yet when I saw him I felt great doubts as to whether any fatty decay was really present, in addition to a condition of asthenia. On going carefully into his habits, and finding that he only had a few hours' sleep each night, he was advised to cut down his personal work, and have longer hours of sleep with more exercise. In a short time he lost his disagreeable symptoms, and is now as well as a man of his years, about fifty-five, can well be. It might be maintained that in this case some fatty change was actually present and removed. But that raises the whole question as to whether a certain amount of molecular decay, where a number of the muscular fibrillæ of the heart walls are converted into fat, the result of imperfect oxidation, may not be recovered from. That by increasing the oxidation the fatty *debris* is removed, and then new material of a healthy character laid down in its stead. This may be so; but we do not yet possess evidence sufficient on the subject to be positive. We do already know that conditions of degeneration in muscles after fracture of one of the long bones are recovered from; and also that the degeneration caused by a prolonged pyrexia soon passes away. It must always remain a vexed question whether, or not, a certain amount of tissue degeneration may not be compatible with repair.

Another form of senile change is also the source of diagnostic error, viz., that of ossified costal cartilages, with emphysematous lung behind them. Here, too, the heart's impulse is imperceptible, and the sounds are distant and feeble, while to percussion little or no heart dulness can be made out. A condition of fatty degeneration is thus simulated, but not very closely. Nevertheless, it has led to mistakes, and a striking illustration occurred to my friend Dr Clifford Allbutt of Leeds. One day the wife of a gentleman in a neighbouring town came to him hurriedly, and desired him to go with her immediately to see her husband. He had suffered from asthmatic dyspnœa for some years, and in the morning, as he did not feel well, and was intending to go up to London that day, he thought he had better call in his family medical attendant. This gentleman made a physical examination of his chest, and pronounced him to have a fatty heart. Another opinion was also called in, and the original diagnosis corroborated. The journey was forbidden, and strict quietude advised. The patient's wife was very much perturbed at this, and hoping that the diagnosis might be erroneous, set off for Dr Allbutt. When he saw the patient he admitted the physical signs, but pointed out that the pulse was firm and incompressible, and that in all probability there was a large and structurally sound heart behind the emphysematous lung and the rigid costal cartilages. The local medical men handsomely apologized to the patient for their mistake, and the journey to London was proceeded with without mishap. Such a mistake could only take place with practitioners who had been taught, or had taught themselves, to rely exclusively on physical signs, which, however useful ordinarily, on this occasion betrayed them into error.

A much more common condition than any yet described, and often of a still more puzzling nature, is that presented by women at the change of life. Here the condition closely simulates fatty degeneration, and in many cases, in all probability, there is a blended condition in reality. But much more frequently the condition is one of passing asthenia uncomplicated by structural decay. Such patients are most common in the upper classes. A typical case would present the following features. A lady of indolent habits, not averse from the pleasures of the table, with a taste for tea, and inclined towards less innocent stimulants, but not to any reprehensible length, stout and not rarely pallid, with white and slightly œdematous-looking hands, complains of shortness of breath on any attempt at exertion. She also complains of waking in the night with dyspnœa, and of inability to sleep with her head low, and the necessity for an extra pillow or two. On examination, the pulse is found feeble and easily compressible; the heart's impulse cannot be felt, and its sounds are thin, weak, and distant, while its rhythm is disturbed somewhat. It is impossible by percussion to determine its exact size, but there is every reason to believe that it is somewhat dilated; and it is undoubtedly feeble. The patient complains that she is liable to palpitation on slight effort, or any mental excitement. Palpitation is common, too, at night, and is always present when she is awakened by dyspnœa. But there is another phenomenon which is felt to be much more distressing, and that is a feeling as if the heart was stopping, or indeed had stopped, which is most alarming. Such patients declare that when they feel their hearts palpitating, they are comparatively comfortable, for they know their heart is beating, but that the feeling of stoppage causes acute alarm. In such cases the appetite is defective, and the digestive power low. The bowels are confined, and there is a certain amount of flatulence present. Accumulations of gas in the stomach or in the transverse colon, pressing on the diaphragm and so displacing the heart, cause that organ to beat with difficulty, and so evoke palpitation and dyspnœa. These patients, too, are liable to syncopal attacks, such as are found in actual fatty degeneration. They readily perspire; they have cold extremities, and indeed present the whole array of symptoms which Dr Hayden gives as those of fatty degeneration. In these cases, from inability to take exercise, from their occupying warmly-heated rooms in consequence of their defective production of body heat, there is undoubtedly defective oxidation of the tissues. From their impaired digestion and loss of appetite there is defective nutrition. The heart, an organ ever in action, is certainly badly nourished—worse nourished, perhaps, than any other part. From the imperfect oxidation, it is very probable that there may be an accumulation of fatty *debris* in its structure as well. It is impossible to be absolutely certain that such is not the fact in any case before one; in many it is more than probable, in some it is certainly the case. Where there is fatty degeneration blended with the weakened condition of imperfect nutrition, the case proceeds steadily downwards; the symptoms deepen in gravity, and the end is death.

But in the large majority of cases a less disastrous termination is the result fortunately. The ill-health of the menopause passes away in time; the nutrition improves, and with it the state of the heart walls; and, after a time, the invalid is found to enjoy fairly good health, and to be capable of a considerable amount of exertion, and little is heard of the once troublesome heart—indeed, the patient is no longer an invalid. Having passed through a period of ill health and some danger, the organism passes into the placid condition of post-catamenial existence, little disturbed by the rhythmic periods which constitute the refrain, as it were, of the catamenial cycles. The appetite returns, and the heart is well nourished. It is free, too, from the reflex disturbances to which it was subject during the menopause, and which often occasioned the fits of palpitation and the syncopal attacks. The recurrent attacks of pallor or of flushing have gradually ceased; and, indeed, the vascular system is once more free from the perturbations to which it was for a time subject, and which were so alarming and suggestive of serious organic disease.

There is no doubt about the fact of the reduction of a simply dilated heart to its normal size, or near it. And where there has been a condition of debility with dilatation merely, and the heart walls have been structurally sound, such patients recover perfectly. But when there is also some molecular decay the case progresses less satisfactorily. It is probable that a certain amount of fatty degeneration is not incompatible with repair, as in the softened hearts of relapsing fever. How far such decay extends is a matter for the most attentive watchfulness and careful calculation in each individual case. As to what is the exact condition in every case for diagnostic and prognostic purposes, can only be ascertained by painstaking examination, and by accurate estimation of each factor in the case. The case of the late Harriet Martineau illustrates what has just been said. Though Sir Thomas Watson and others diagnosed the case correctly, it is clear that a mistake was made by some others, and that the lady herself was under the firm impression that she was the subject of organic disease of the heart. Yet she lived more than twenty years to refute such a diagnosis. The fact that the first sound was described as "noisy," should in itself have put those who examined her on their guard as to the improbability of fatty degeneration in the case. She was at a certain time of life. She had an enlarged ovary as a source of irritation, and her heart was disturbed reflexly. When the ovary escaped out of the pelvis into the abdomen the perturbations reflexly excited ceased, and the mesmerism got the credit of it.

That Harriet Martineau died ultimately of heart disease is very probable. But the reflex disturbances when she was fifty-three years of age surely bore no relation to the disease which existed when she was seventy-four.

As to the murmurs, hæmic or dynamic, which simulate the murmurs of valvular disease little need be said. The hæmic murmur of anæmia is well known; it is situated in the pulmonary orifice, and that is in itself very nearly sufficient to establish its non-organic nature. So also the pulmonary murmur heard when the lung does not sufficiently cover the heart, and aggravated by expiration and lessened by inspiration, speaks for itself. The dynamic murmurs heard at the mitral orifice, which are systolic in time, and which have been so carefully described by Dr George Balfour, are certainly difficult to distinguish from those of mitral regurgitation, and cannot so be distinguished by the signs revealed to auscultation or percussion. The general features of the case are the only guide as to a correct diagnosis; and it is just the general features of each case, rather than the physical signs, which must determine whether there is present actual organic disease of the heart, or merely a condition which closely simulates it.

ARTICLE II.—*Note on some of the Therapeutic Virtues of the* Eucalyptus globulus.[1] By BENJAMIN BELL, F.R.C.S.E.

RATHER more than a year ago my attention was first drawn to this remedy by an interesting reference to it in Sir John Rose Cormack's *Clinical Studies*, vol. i. p. 482. In a postscript to a case of cauliflower excrescence of the uterus, he mentions that latterly he has used as an injection an infusion of the leaves of the *eucalyptus*, or a mixture of from one to four drachms of a tincture in eight ounces of tepid water. Besides being refreshing and comforting to patients so affected, these applications have, in his experience, a remarkable power of destroying the fœtid odour of morbid discharges, *without the substitution of another unpleasant smell.* He extends the remark, after much experience, to the offensive discharges attendant upon cases of ozœna, cancer of the tongue and throat, cancer of the uterus, gangrene, and other affections accompanied by fœtor. In the same postscript, he mentions that in simple uterine catarrh he knows of no remedy equal in value to the

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[1] Blue gum tree of Tasmania, discovered in 1792. Nat. Ord. Myrtaceæ. The leaves contain more of what appears to be the active principle than other parts of the tree. There is an essential oil with a camphoraceous odour, from which M. Cloëz has prepared what he denominates *eucalyptol.* Besides the essential oil, there is a large quantity of resin, a notable quantity of tannin, and the usual alkaline and calcareous salts. The essential oil may be prescribed in capsules each containing four drops, as prepared by M. Delpech of Paris; but it is said to cause nausea, probably from being too concentrated and irritating. The tincture and infusion are not liable to that objection.

Eucalyptus globulus. In these cases he has met with the most satisfactory results, when it was simultaneously administered by the stomach and in the form of injection. He adds, "as Gubler has shown, the anti-catarrhal virtues of *eucalyptus* are most remarkable. With increasing experience of its power, I more and more employ it in bronchial, vesical, and uterine catarrh, in gonorrhea and in gleet."

These representations of Sir John Rose Cormack, and the circumstance which he also mentions, that a preparation of the essential oil in capsules is a favourite prescription with many leading physicians in Paris, led me to make trial of the remedy in a variety of cases during the past year. The only preparation which I have used has been the tincture prepared by several of our most eminent druggists in Edinburgh, and I have seldom prescribed more than a teaspoonful, mixed with a wineglassful of water, twice a day.

In several cases of bronchitis with profuse expectoration, I have witnessed remarkable benefit after a very brief use of the remedy, evinced by a rapid diminution of the discharge, and also by a corresponding improvement in the general condition of the patient. But my object in writing this note is to recommend the internal use of *eucalyptus* in a class of cases to which, as far as I know, it has not hitherto been considered applicable.

It occurred to me, that a plant which has obtained a great reputation in Tasmania, Australia, New Zealand, the south of France, and in Italy, as a defence against malaria, and which evidently possesses valuable properties as a disinfectant, deodorant, and astringent, might prove useful in certain forms of disease in the stomach and bowels. I have not been disappointed in this expectation, and would therefore encourage my professional brethren to give it a fair trial in such cases.

A gentleman of seventy-five had suffered from formidable disease of the stomach for eight or ten years, and on several occasions had seemed very near his end, with every symptom of malignant ulceration. Great quantities of blood had been vomited from time to time, and at short intervals, seldom exceeding a fortnight, the stomach after becoming painfully distended with a sour *barmy* fluid, was relieved by repeated vomiting, while life itself seemed possible only with extreme lightness of diet and most vigorous self-denial. A strong, active man had become a confirmed invalid, and seemed both to himself and others beyond the reach of remedies. He has taken the tincture of *eucalyptus* twice daily for many months, and during all that time has scarcely had even a threatening of those painful and exhausting attacks which had latterly occurred almost every week.

Another old gentleman, a retired medical man of eminence, who for some years has laboured under symptoms which indicate disease of the stomach and possibly the colon, is so sensible of benefit from the use of the medicine, that he can seldom abandon it for even a few days without being reminded of its importance and eagerly resuming it.

Another case in which ulceration, or some other organic disease of the stomach seemed the only reasonable diagnosis, the patient, a widow with a family dependent upon her, made an unexpected recovery from extreme attenuation and weakness under similar treatment.

I have tried it repeatedly in a class of cases which are usually regarded as ulcers of the stomach threatening perforation. They are mainly young women, servants, sempstresses, and others, who partake largely of tea which has been boiled or allowed to infuse too long on the hob; but I cannot say that their attacks of pain after food have been cut short in the same indisputable manner as in the cases already referred to, because such persons usually get well under ordinary treatment, and by avoiding what may be called the poisonous cause of their malady. Still, I have met with individuals who by taking the *eucalyptus* have become, in their own opinion, exempted from the recurrence of attacks, which past experience had led them to anticipate.

My object in this note will be attained, if those who have opportunities will give the remedy a trial; for it is only by an unprejudiced and cautious accumulation of experience that the real value of a therapeutic agent can be estimated. Of course, no one will think of using the medicine as *a specific* in any case where it may seem to be indicated. All the details as to diet and general regimen, which would be deemed necessary without it, must be carefully attended to.

In conclusion, I may say, that it seemed to me of manifest use lately in a case of diphtheria commencing in the gullet and ascending to the fauces; and my belief is, that it might be prescribed with advantage in some cases of typhoid fever.

ARTICLE III.—*Case of Injury of the Brain, presenting certain anomalous Symptoms.* By JOSEPH BELL, Surgeon to the Royal Infirmary.

(*Read before the Medico-Chirurgical Society of Edinburgh, 5th December* 1877.)

J. T., æt. 24, was brought into the Infirmary under my care, with the following history and symptoms, on 17th October 1877:—

History.—After an evening in a public-house, during which he had consumed a considerable quantity of whisky, he had a quarrel with a friend in the street. He received a blow on left eye and nose, which knocked him down. He fell on the back of his head, and a small scalp wound was inflicted, which bled considerably.

He was then assisted to the house of Dr Wolston, who dressed the wound; while there he vomited; the vomited matters contained a good deal of blood. This blood had probably passed into the stomach from the nose, which had bled freely. He was then removed to the Palace Hotel, where he was a waiter.

Next morning, as he was still in a somewhat insensible state, he was brought to hospital.

State on Admission.—Patient, a strong healthy-looking young man, lay on his side, concealing his eyes from the light in a semi-comatose state. He could be roused by being spoken to loudly, and protruded his tongue and opened his mouth when requested, but he could not give an intelligent answer; and, on being left alone, seemed to fall into a sort of doze.

He had not been again sick. The left eyebrow was much bruised and swollen. The eye was nearly closed. Pupils were equal, and acted fairly well under stimulus of light. There was no bleeding or welling from either ear, nor any other evidence of fracture of either base or vertex.

The scalp wound a little to the right of mesial line behind was trifling, about an inch in length, with jagged edge, and did not expose the bone.

There was no other mark of external injury.

The effects of his drunkenness did not seem to have completely passed off. Pulse 61 ; temp. 99°.

Ordered rest. Low diet. No medicine.

Next day, 18th October, he was still in same peculiar state, capable of being roused, but at once relapsing into silence and a semi-comatose condition. No stertorous breathing. Pulse 52 ; temp. 100°·5.

His brother, whom I now saw, told me that he was by nature a bright, cheerful, active young fellow ; a good waiter, but fond of whisky, which he could drink in large quantities without being drunk. He has known him to drink a bottle in a day, and still do his work correctly.

Without giving daily reports, his state did not improve, and for a fortnight he remained in this helpless state, gradually getting worse, till at length he lay on his back hardly noticing anything ; with difficulty roused to his food, which, however, he always took freely, and paying no attention to the wants of nature. Both urine and fæces were passed involuntarily. By this time the swelling of left eyebrow and lid had disappeared, but the left pupil had gradually become less sensible to light, dilated, irregular, contracting very feebly under direct sunlight. He said that he could not see well with it. All this time pulse varied from 70, 56, 78 ; temp. normal.

Mr Spence kindly saw the case with me, and agreed with me both as to the dangerous nature of some of the symptoms and their anomalous character. The nervous symptoms pointing at some structural changes in brain ; while the temperature remaining normal, gave hope that they were not inflammatory in character.

31st Oct.—With Mr Spence's approval, I ordered the back of the head to be shaved and blistered, while at the same time a small quantity of brandy was to be given in half-ounce doses, also the effect watched.

All this time he retained perfect power of sensation and motion in both arms and legs, and, with the exception of a slowness in his answers, and difficulty of closing the mouth to whistle, there were no symptoms of motor paralysis.

The slight ptosis of left eyelid might be explained by the bruising to which it had been subjected.

After the blister, which had to be repeated and dressed with savin ointment, and the alcohol, he became certainly less drowsy and stupid, and began to give notice when the bowels acted.

About the twentieth day after the injury he began to smile, and notice what was said to him and of his case, and he could now keep his bed clean.

On twenty-sixth day the ptosis was nearly gone, and the pupils were almost equal, but a quite distinct external squint of left was visible, and the vision, which he is now able to test with intelligence, is considerably impaired both for near and distant objects.

An ophthalmoscopic examination shows numerous dusky spots in vitreous; some of which he himself notices in the field of vision.

His gait on walking is peculiar. He straddles, separating his legs; but walks quickly, turns sharply, and can stand quite well with his eyes closed, and heels together.

Dr Argyll Robertson kindly examined the left eye and found evidence of retinitis.

He is now out of hospital, walks about in apparently perfect health, but in his speech, and especially when he reads aloud, there is a peculiar staccato character, implying an almost choreic tendency of the muscles.

The exact pathology of the whole case presents some features of considerable difficulty, hence my venturing to lay the case before the Society.

ARTICLE IV.—*Successful Operation on a very Large Vesico-Vaginal Fistula, occurring in a Child eight years of age.* By the late Professor Dr GUSTAV SIMON, of Heidelberg.

(*Read with explanations before the Obstetrical Society of Edinburgh, 12th December* 1877, *by* Dr J. J. KIRK DUNCANSON, *who was a student of Professor Simon's during the treatment of the case in Heidelberg.*)

THE following diseased state, in which a very large defect in the bladder was present, was caused by an immense urinary calculus suppurating through the vesico-vaginal wall. The calculus weighed 45 grammes 693 grains. The cure was brought about by the successful treatment of such cases by Professor Simon, and might well claim the interest of the profession, not only on account of its rarity, but as showing the perseverance, skill, and energy of the operator.

In the first place, a vesical calculus of the size mentioned above is a rare occurrence in a female child.[1] Still far more rarely does suppuration of a vesical calculus through the vesico-vaginal wall take place, and there exists no example in the literature where the closure of a defect in the vesico-vaginal wall in a child has taken place through the use of the suture. Fergusson and Paget (of Leicester) endeavoured in vain to close a wound made by incision in the vesico-vaginal wall. [See below.]

Anna Niemaier, from Sulten, near Stavenhagen, in Mecklenburg Schwerin, was, on account of disease from stone and involuntary flow of urine, received into the Hospital at Rostock on the 8th September 1866. The patient was eight years of age, and had suffered for the last four years from urinary complaints, and for the last year from an involuntary flowing of the urine. She was, only shortly before her reception into the hospital, examined with the catheter, and on this account the cause of her sufferings was not known until then. Only her last medical attendant, who had seen her a fortnight before us for the first time, had used the catheter, found the stone, and sent the patient to us for operation. She was on account of her sufferings very much reduced, was pale and haggard. The clothes were wet by the continual outflowing of the urine, and the pains in the bladder were so great on moving that the little patient wished only to sit or to lie. We made an examination under chloroform-narcosis. By the introduction of the catheter we came upon a very large vesical calculus immediately beyond the urethra, which was almost entirely firmly surrounded by the walls of the bladder, as the person using the catheter could not move it although using considerable pressure. But we felt the stone not only by the urethra, but also by the very narrow vagina; and there was therefore no doubt the stone had broken through the vesico-vaginal wall, and so had caused the involuntary flow of urine through the vagina. We now endeavoured above all to remove the stone through the vagina, but the stone was so large and the vagina so narrow, the extraction was only successful after we had broken it into many pieces by using the lithotrite, etc. It was composed of urate of ammonia and phosphates, and weighed $1\frac{1}{2}$ unzen = 45 grammes (693 grains.) After its removal we found an angular defect in the vesico-vaginal wall, the anterior end of which reached within one centimetre of the orifice of the urethra, and stretched on the right side of the vesico-vaginal wall up to the neighbourhood of the lip of the os uteri, then turned aside at a right angle to the left, and ended in the left vaginal pouch. The defect in its angular course measured $5\frac{1}{2}$ centimetres in length, whilst its greatest breadth amounted to 1 centimetre. In the corner of the defect one could recognise in the fallen forward mucous membrane of the bladder the opening of the right ureter. The edges were extremely thin, and the mucous membrane of the bladder fallen forward.

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[1] The straight direction, the width, and especially the shortness of the urethra in the female child, as well as in grown-up females, explains why vesical calculus occurs much less frequently in girls than in boys. Whilst vesical calculi are very frequently met with in boys (for instance, in Sir H. Thompson's collection of 1827 cases of lateral operation for stone, 475 are in boys of from 1 to 5 years, and 377 are in boys of from 6 to 11 years), besides the two cases, to be detailed afterwards, of vaginal operation for stone in vesical calculus, I have only yet found one statement by Fergusson, according to which this famous surgeon has performed lithotripsy in several female children with the best result. *Lancet*, 1862, vol. ii. p. 388. I found the notice in Langenbeck's *Archiv*, Bd. v. p. 365.

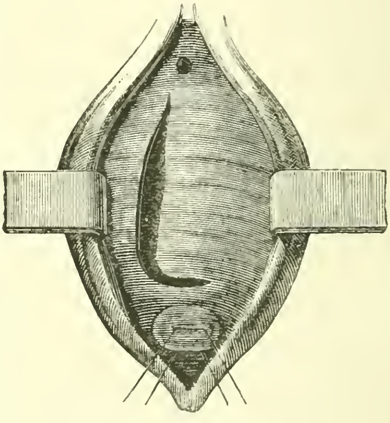
FIG. 1.—Original Defect.

I undertook the operation, notwithstanding its uncommon difficulty, which could be easily seen beforehand, to bring the defect at the present time to a closure, if we wished for more favourable circumstances in the patient, *i.e.*, if we wait for a better development of the parts on which we must operate, the patient would be doomed to suffer for many years the most disagreeable continual involuntary outflowing of the urine. The carrying out of the operation, however, I still delayed for two months, whilst I hoped the defect would become much less by cicatricial contraction. This, however, had very little effect, and the opening remained in relation to the smallness of the parts still so large that I did not believe I would be able to bring about the healing in one operation. By the first operation, on the 10th December 1866, I therefore united only the anterior portion of the long fissure up to its middle. The greatest difficulties arose from the inaccessibility of the defect, because the vagina was of course uncommonly narrow. The posterior wall of the vagina was pressed down by a flat speculum only $1\frac{1}{2}$ centimetres broad, the side walls were kept asunder by using the smaller spatulæ for the vagina, and the parts surrounding the fistula were drawn forward with small sharp hooks so far that the exact carrying out of the rawing of the edges and the insertion of the stitches could be properly accomplished. The rawing of the edges was made in a sharply oblique direction, and the union restored by six stitches, for which we used the double thread of the finest number of Chinese silk. Union took place. In a second operation in February 1867, the still remaining portion of the antero-posterior defect and the cross opening joining on to the antero-posterior defect at nearly a right angle were united with nine stitches. The execution of this operation was, on account of the deeper situation of the part of the defect to be closed, still far more difficult than the first operation. The edges were again pared in a sharply oblique direction, and there were added to the uniting stitches several sutures to relieve the tension. In spite of considerable dragging on the edges, union took place in all, except a small fistula in the united antero-posterior defect. On the 2d of July 1867 I endeavoured to close up this opening also by uniting it in the transverse direction with four stitches. Union did not take place on this occasion. The child, immediately after this operation, was seized with a violent fever and diphtheritis of the mucous membrane of the vagina. The stitches could only be removed a fortnight after the operation, because I could not find them, owing to the narrow vagina being so closed up with membranes. After two months the vagina was again clean, and the patient without fever. She was, however, through the illness, very much reduced, and fallen away to a skeleton. The defect was so considerably enlarged that one could easily introduce the index finger into the bladder. The edges were still thinner than before, and the mucous membrane of the bladder was again pressed forward into the vagina. Under these circumstances no repetition of the operation was to be thought of, and I, on that account, dismissed the child, so that I might at a later time, when she had completely recovered and become strong, take her again under treatment. On account of my removal to Heidelberg at Easter 1868, the return of the patient to my treatment was delayed until January 1869. The fistula had, during the 1½ years I had not seen it, become very little less, the edges were very thin and cicatricially changed, and the opening stretched from the urethra till quite near to the os uteri, so that, of the original defect, there remained still closed only the posterior transversely running portion. On the 14th January I united the fistula with eight fine silk stitches in the longitudinal direction, and made a long incision, to reduce the tension on the stitches, into the parts beyond the anterior wall in the side wall of the vagina to the right. Union took place in all but one little opening, which happened through the too quick cutting through of one thread in the strongly-stretched thin walls. On the 23d August I united this little opening in the longitudinal direction by four stitches. To relieve the tension there was again made in the neighbourhood of the defect in the side wall of the vagina a deep parallel incision. On the fourth night severe hæmorrhage took place from the vagina. In order to stop the hæmorrhage the little patient was brought into the operating theatre and placed on the operating table on her back, with the buttocks raised, when it was found that the bleeding came from the lateral incision made to relieve the tension from the stitches. The bleeding was stopped through compression with a tampion of charpie, which was pressed into the incision with a pair of long forceps for at least ten minutes. When, on the fifth day, the stitches were removed, it was found that the fistula was entirely healed. The continence of the urine was, however, not yet complete with the patient. The cicatrix, which extends to very near the orifice of the urethra, appears to interfere with the functions of the sphincters. In lying, in standing, and in the making of slow movements, the patient can completely retain her urine; but in making more violent exertions, and in quick walking, her clothes are soaked through by the involuntary flowing of the urine. The cure was complete before the end of the year.

In the literature at my command I found only two cases of vesico-vaginal fistula which have been observed in children. But these were not, as in our case, caused by the suppurating through the vesico-vaginal wall of a stone, but by the incision used for the extraction of a stone. The wounds, which made a communication between the bladder and the vagina, did not heal, notwithstanding that they, as a matter of course, offered far more favourable conditions than in the case operated upon by us. The cases are the following:—Fergusson (see *Lancet*, 1862, vol. ii. p. 387) had removed from a child of nine and a half years a mulberry calculus of the size of a walnut, by an incision from the vagina in the manner of introducing a straight grooved sound into the bladder, and after dilating the narrow vagina with the finger, passed a knife into the groove immediately behind the neck of the bladder, and made an incision $\frac{3}{4}$ in. long, which was afterwards still further dilated by means of the small extraction forceps. In order to bring about union, silver sutures were used to bring the edges together, and these were removed on the following day. But there remained a fistula of a size sufficient to admit the point of the index finger with complete incontinence of urine.[1]

Further, James R. Lane, in speaking of the vaginal incision for stone (*Lancet*, 1863, vol. i. pp. 34–37), mentions that Paget of Leicester had performed the vaginal incision operation for stone in a child of three years of age. The urethra was, in the case of this child, laid open in its whole length, and the stone removed. But the intended suture could not be applied. There remained a permanent incontinence.[2]

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[1] Unfortunately the above-mentioned number of the *Lancet* is not at my command; I know the case only through the above given notice which I found in Gurlt's *Jahresbericht* in von Langenbeck's *Archiv für klinische Chirurgie*, Bd. v.

[2] See Gurlt's *Jahresbericht* in von Langenbeck's *Archiv*, Bd. viii. I know this case also only from Gurlt's *Bericht*.

With little children the difficulties are much more considerable than with grown-up people, on account of the smallness of the parts through which, and on which, we have to operate, and on account of the thinness of the vesico-vaginal wall; therefore, the expectation of success must be so much the less, the greater the defect is which is to be brought to a closure. Nevertheless, we have in our case, in which the vesico-vaginal fistula had comparatively a very considerable greatness, through perseverance and the application of our method of operating, which we have found also with grown-up people to be the best, overcome all difficulties, and obtained the healing of the fistula.[1] The paring of the edges was performed in a sharply oblique direction, towards inwards, and the advantages of this method of paring or rawing the edges were seen here in the most striking manner. It was only possible by that and the using of sutures, so as to relieve the tension from the stitches used to bring the edges into close contact, as well as the use of incisions pretty deep into the neighbouring parts, to bring the edges into close contact on all sides. These latter were made in the parts where the anterior and lateral walls of the vagina may be said to unite. On account of the thin edges and the strong stretching to unite them, the stitches always cut very quickly through; but seeing we used very fine threads, there remained behind only once a small penetrating opening which was pro-

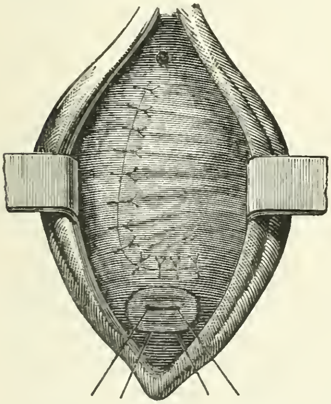
FIG. 2.—Stitches in the Fistula.

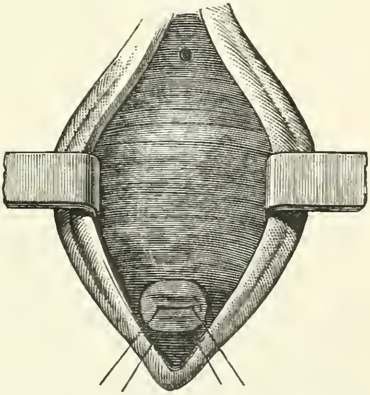
FIG. 3.—Cicatrix after union had taken place in the whole Fistula.

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[1] This procedure is described in my writings, *Ueber die Operation der Blasenscheidenfisteln durch die blutige Naht*, Rostock, 1862; and, further, in *Mittheilungen aus der Chirurgischen Klinik des Rostocker Krankenhauses*, ii. Abtheilung, Prag. 1868; and lastly, in Nos. 45 and 46 der *Deutschen Klinik vom Jahre* 1868 *in dem Aufsatze*, "Historiches über den operativen Verschluss der Scheide durch Vereinigung der Scheidewandungen (Kolpokleisis), nebst Bemerkungen über der Standpunkt der Operation der Blasenscheidenfisteln in Deutschland)."

duced by a stitch. As in all our fistula operations, we used here also the finest number of Chinese silk, and, indeed, in most of the sutures single, only in a few we used it doubled. For the after-treatment the catheter was not kept in permanently; it was not even once used to empty the bladder now and then. The patient passed her urine of her own accord into a basin pushed under her. In the course of the treatment there occurred two disturbing causes to the cure, namely, diphtheritis after the third, and a hæmorrhage after the last operation. The diphtheritis of the vagina frustrated not only the result of the third operation, but effected also a further loss of substance, which enlarged again considerably the already much-lessened fistula. Also the after-bleeding from the vagina was very disquieting, for it made the patient anæmic, and by the dilating of the vagina, which was necessary in searching after the bleeding point, and in the application of the means for the stopping of the blood, tearings on the newly united edges of the wound could scarcely be avoided. But still, in the last instance, they did not injure the successful result.

The healing of this fistula with so exceptionally thin walls ought to be a new demonstration of the correctness of the after-treatment without the catheter lying permanently in the parts, which I introduced into surgery.

ARTICLE V.—*Concerning the so-called Fistula Auris Congenita: Anomaly of Formation.* By Dr VICTOR URBANTSCHITSCH, Docenten für Ohrenheilkunde an der Universität in Wien. Monatschrift für Ohrenheilkunde, July 1877. Berlin.

ABOVE the tragus, situated usually 1 centimetre above the same, and most frequently 1–2 millimetres before the helix, we not rarely find in man a small opening as the entrance of a canal running from without inwards and forwards, in which a thin probe or bristle can be introduced to the depth of several millimetres.

This canal, named fistula auris congenita, was first set down as a congenital formation by Heusinger. In Virchow's *Archiv*, vol. xxix. page 358 (Table XII.), Heusinger describes a case in which there was found at the left ear "before the tragus a small elevation, before the commencement of the helix a small little hole, and between both from the incisure forwards a marked stripe of the skin 1 centimetre long." Before the auricle of the right side there likewise appeared a small hole whereby the skin had a cicatrix-like appearance. Heusinger observed, further, in the same individual on the left side of the neck a little hole, and on the right side in the exact same place a cicatrix.

The same author mentions, in the *Deutschen Zeitschrift für Thiermedicin und Vergleichende Pathologie*, Band ii. (s. *Central-*

blatt f. Chir., 5th February 1870), the branchial fistulæ in men and animals, and states that skin metamorphoses, as remains of the closure of the cleavings, are not unfrequently met with in the form of cicatrix-like striæ, small pore-like openings, folds of skin, and small warty-looking pieces of skin before the ears and on the throat, especially in females; they are, however, more frequent in all domestic animals than in man (Meckel, Geoffroy St Hilaire).

In horses they are said to occur pretty frequently in the region of the fourth as well as of the first branchial cleft. One meets frequently with malformations corresponding to the first branchial arch in the sheep above all animals, according to Heusinger. Besides Heusinger, Schede (s. Schmitz), Schmitz (*Inaug-Diss*, Halle, 1873), and Pflüger in Lucerne (*Monatschrift für Ohrenheilkunde*, 1874, No. 11), make observations about the so-called fistula auris congenita in man.[1] Schmitz describes three cases, two of which are derived from the practice of Schwartze. In Schwartze's cases the fistulous openings secreted and gave passage to a milk-white fluid; a communication with the tympanum could not be proved. Pflüger observed in a girl, on the one side, 7 mm. before the anterior bending round of the helix in the same horizontal plane with the lower limb of the antihelix, a deepening of the skin of a size of the head of a pin; on the other side, exactly in the same position, there was a little hole, through which a thin probe could be pushed in 1½ ctm. deep.

Pflüger does not consider this canal a blind sac, but supposes that there exists a communication between it and the middle ear, because from this canal, as the mother of the child stated, pus has already frequently escaped, which was each time preceded by pains in the ears, the pains ceasing with this outflowing of pus. Pflüger was, however, unable to furnish direct proof of a connection with the middle ear; as well as Schmitz (see above), who had in vain endeavoured to inject water into the tympanum through such fistulous openings.

So-called fistulæ auris congenitæ, or the entrance openings of exactly corresponding changes to these in the outer covering, I have met with twelve times in about 2000 cases, and of these 8 occurred in males and 4 in females. Among these twelve cases the mentioned anomalies were limited in nine cases to one side only, and in three cases they were found bilateral; their distance from the upper end of the tragus amounted to 1 ctm. in almost all the cases, from the helix mostly 2 mm., and only in one case 6 millimetres.

The changes occurring in the skin at the spot pointed out consisted in three cases of a shallow dimple of the size of a pin-head, which had something of the appearance of a pockmark; in the remaining nine cases very fine fistulous canals with a blind end were present, which, on probing, gave a depth of from 2–9 millim. The fistulous canals were present in six cases on the one side only, three times on both sides, and of these, two in men, one in a woman.

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[1] See Paget's remarks in *Brit. Med. Jour.*, 1st December 1877, p. 765. J. J. K. D.

In the case of one man there occurred, besides the fistulous passage before the ear on the right side, a fistula colli congenita on the same side, which is described in detail by Dr Leop. von Schrötter, in his *Jahresbericht der Klinik für Laryngoscopie an der Wiener Universität, pro* 1870, (Wien, Braumüller, 1871, p. 113.)

Among the nine cases of branchial fistulæ there took place in three cases a secretion of a milk-white fluid. The one case occurred in a patient who at the same time suffered from a purulent catarrh of the middle ear, in the ear of the same side as the fistula was; in the second case, that of a five-year old boy, there was present a canal 9 millim. long, 1 ctm. above the tragus, 2 millim. before the helix, which produced a yellowish whitish secretion, that repeatedly stagnated in the canal, and then formed a swelling of about the size of a pea before the ear, which poured out its cream-like contents by pressing upon it from the fistulous opening. Such accumulations were frequently formed in from twenty-four to thirty-six hours.

The third case was found in a woman thirty-six years of age, who presented fistulous openings on both sides. The fistulous canal of the right side yielded no secretion; whilst on the left-hand side a partly serous, partly whitish purulent, discharge is said to have taken place for the last four years.

This patient exhibited, in the neighbourhood of the articulation of the lower jaw of the left side, a fluctuating swelling of the size of a hazel-nut, which, according to her statement, had formed itself repeatedly before this in the same place, and had been treated and incised on different occasions as an abscess; however, it always returned again. In my examination, I could quite distinctly determine the connexion of the fistulous canal with this supposed abscess, because by a little more strongly-applied pressure upon the swelling, the cream-like contents of the same discharged themselves slowly from the opening of the fistula.

A placing together of the anomalies occurring in the closure of the first branchial cleft, as in the cases here communicated, allows us to recognise them partly as cicatrix-like dimples in the skin,[1] partly as canals 2–9 millim. in length, which either yield no secretion, or they secrete a fluid similar to that secretion observed in the congenital fistulous openings seen in the neck. In the case of a secretion, there can be formed in consequence of the obstructed outflow of the secreted fluid a retentions cyst.

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[1] Dr Zuckerkandl kindly drew my attention to Prof. Albert's work, *Lehrbuch der Chirurgie und Operationslehre* (Wien, 1877, s. 493), according to which the sometimes occurring finest dimples before the external hearing passage were to be considered as residues of the first cleft.

I have met with in none of my cases wart-like elevationsof the skin at the mouth openings of the fistulæ, which, according to Heusinger (see above), are said to occur frequently.

Of interest appears the inheriting, which can sometimes be proved, of the here discussed arresting of formations. I learned, for example, from Dr Z. in Wien, who has a small cicatrix-like dimple before the right auricle, that there existed also a small dimple in one of his two brothers on the same spot before the helix.

In one case of defective closure of the right first branchial fissure, I received from the father of the boy the following information, (Posch from Vienna) :—

The great-grandparents of the boy possessed no fistula opening before the ear, as well as neither of their two sons, respectively, the granduncle and the grandfather. The granduncle had three daughters and one son; of these, the first-born daughter had a fistula before the right ear, the other children had none. Of the children of this daughter, three boys, only the first-born had a fistula on the right side, with the other children there was no fistula formation. Now, as regards the other branch of the family, the grandfather, as already stated, likewise his son, the father of our boy, had no fistula. The father of the boy has three children, of whom the first born (our case) shows a fistula on the right side; the second born, a girl, is without a fistula, but the third-born child, a boy, exhibits again a fistula on the right side.

From this is to be seen, distinctly, that we have here to do with an inherited branchial fistula,[1] which always appears on the right side only. In consideration of the circumstance that the fistula has repeatedly showed itself on the right side in both of the families, Posch, so it is right to infer from that that the inheritance of this anomaly of formation arose from the common stock of both branches of the family. As now neither the father of our boy, nor still the father's brother, further, neither of the parents of both of these showed the branchial fistula, so it is very probable the branchial fistula first appeared in a former generation of the family Posch; hereupon, as this is frequently observed in the case of congenital malformations, several generations are passed over, to again appear in a later generation of the family. The circumstance would be worthy of mention, that if in one branch of the family Posch, the branchial fistula came forward, the same always appeared with the first-born, and repeatedly remained limited to them. This peculiarity appears also in congenital malformations in general to occur frequently; for example, Wilde observed that of individuals born deaf and dumb, the greatest number were first-born (see Wilde's *Aural Surgery*, page 471; see Moos, *Die Statistik der Taubstummen in Irland, im Jahre*, 1861; *Archiv für Ohrenheilkunde*, 1864, vol. i. page 187).

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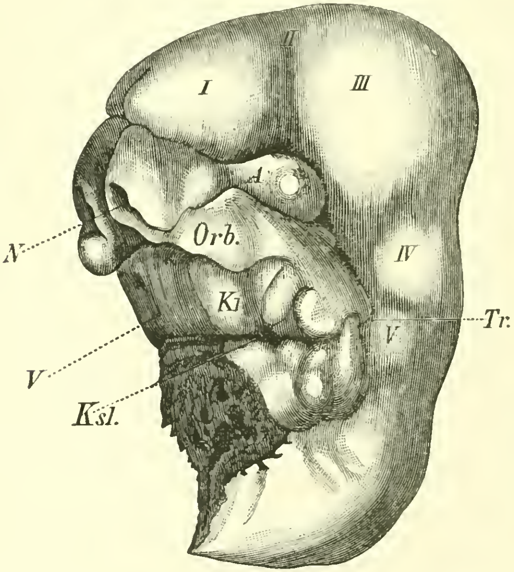
[1] According to an oral communication of Prof. Gruber's, he (Gruber) also has found an inheriting of the branchial fistula before the ear.

It now remains to determine the relations of the branchial fistula here spoken of to the external auditory meatus, and to the middle ear. As we see already from the designation "Fistula auris congenita," this branchial fistula has been brought into relation with the ear, and in consequence of the hitherto generally adopted origin of the Eustachian tube, of the tympanum and of the external auditory meatus from the first branchial cleft, one must indeed incline to this view. A further support to this opinion is rendered by the observations of a purulent-looking discharge from the fistulous opening occurring simultaneously with disease of the tympanum, it was thought that the purulent secretion was derived from the tympanum in such cases; and consequently a direct communication of the fistulous canal with the middle ear was adopted, although clear proof of such a connexion could in no case be made out.



Explanation of the Plate.

I., II., III., IV., V., Cerebral vesicles.
N. Nose.
A. Eye.
Orb. Orbital protuberance.
V. Apparent place of union of both the first branchial arches
Ksl. First branchial cleft.
Tr. Ear-opening.

A connexion of the external or of the middle ear with the fistula channel, which proceeded from an arrest of development in the sphere of the first branchial cleft could, however, not be explained from the standpoint of the history of development.

As I have already proved in a previous work ("Ueber die erste Anlage des Mittelohres und des Trommelfelles," *Mittheil. aus dem embryolog. Institute des Prof. Schenk in Wien*, I. Bd., s. 1–20, 1877), the external and middle ear in no way arise from the first branchial cleft, but on the one hand the middle ear is developed from a lateral sinus of the mouth, nose, and pharyngeal cavity; whilst, on the other hand, the external auditory meatus proceeds from that formation's mass which raises itself like a wall rampart above the original drumhead, as it then exists in the level of the external covering. The membrana tympani is then the external boundary wall of the lateral sinus of the mouth, nose, and pharyngeal cavity.[1] The relation of the external auditory meatus to the first branchial cleft, the accompanying figure, which is taken from my above-mentioned dissertation, may give one a clear idea of it in a more manifest way. One sees in this embryo of the rabbit the first branchial cleft (Ksl) separated from the ear opening (Tr), situated posteriorly, by a small bridge, and receives thereby the impression as if the external auditory meatus would arise from this by the pushing forward of a lateral wall towards the first branchial cleft. A closer examination, however, shows that the ear opening represents the entrance of a canal, which deviates essentially in the course of its direction from the branchial cleft, seeing it runs inwards and forwards, whilst the branchial cleft runs much more forwards. Besides this, it can be shown in younger embryos, that the visible bridge in our figure, between the ear canal and the first branchial cleft, by no means proceeds from the hindmost part of this cleft, but through the rampart-like elevation of the formation's mass which takes place round the then existing drumhead. If we imagine the first branchial cleft entirely closed up to its lateral part, turned towards the ear opening, the so-called fistula auris congenita would be thereby given, which, as it proceeds from the above, stands outside every connexion with the external and middle ear. Therefore, in consequence of that, this canal cannot properly be designated an ear fistula, but is only to be regarded as a remainder of the normal manner in its entirety fully closed first branchial cleft.

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[1] See also Moldenhauer's *Central-Blatt für die med. Wissenschaft*, No. 40, 1876; and *Morpholog. Jahrbuch*, iii.

ARTICLE VI.—*The Treatment of Certain Cases of Ununited Fracture.* By W. A. FINLAY, M.D., F.R.C.S.E.

(*Read before the Medico-Chirurgical Society of Edinburgh, 5th December* 1877.)

THE number of cases of fracture in which firm union does not take place is fortunately small, one in a thousand being held to be an exaggerated estimate of the proportion which they bear to those in which the result is satisfactory.

Yet, notwithstanding the comparative rarity of non-union, examples of it are sufficiently numerous to make the subject one of general interest, for any surgeon may be called upon to treat such cases in the course of his practice.

Moreover, the treatment of ununited fracture cannot fail to be full of interest, since it aims at the relief of a particularly helpless condition, and has for its object the preservation of limbs which otherwise would, in most instances, be amputated at the request of the patients themselves. It is probably true that non-union is most frequently due to some error or carelessness in the original treatment of the fracture. Yet, it is well known that, in certain cases, no amount of care or skill would have availed to prevent the unhappy result. Among the latter is included the class of cases to which I wish to direct attention for a little. I refer to those fractures in which the broken bone is one of two companion bones, such as the radius and ulna, or the tibia and fibula, and in which union has been prevented by the fact that the violence which produced the fracture has at the same time caused necrosis of the whole thickness of the bone, together with the circumstance that the companion bone remains entire.

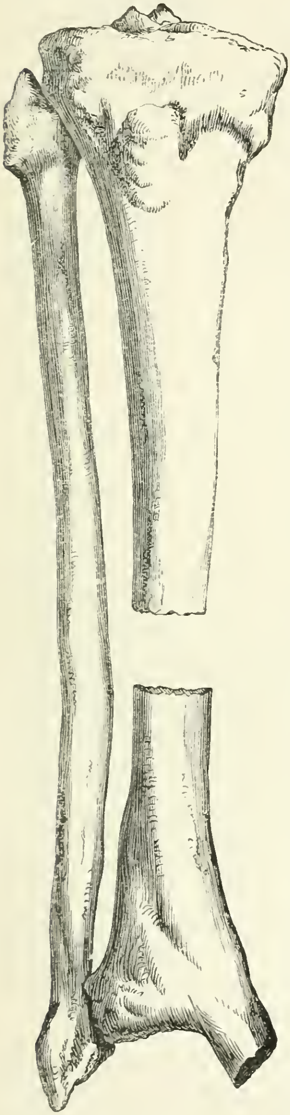
Such a fracture may occur in the forearm or in the leg. It is also possible that it might happen in a rib, or in the hand or foot; but in these situations the condition would not be of so much importance, and would not be amenable to the same treatment, on account of there being more than one unbroken bone alongside of the injured one.

I shall probably best explain the nature and treatment of these cases by giving a short account of one that I had lately under treatment from its commencement.

On the 10th of June 1876, J. M., æt. 9, the patient whom I shall presently show to you, was admitted to Leith Hospital, having been recommended by Dr Williamson.

He had sustained a severe compound fracture of the left tibia, the result of an accident on the tramway. The fibula was not broken. A small piece of loose bone having been removed from the fracture, splints were applied, and gradually the wound healed, except at one point over the seat of fracture, from which a purulent discharge continued to flow.

About ten weeks after the accident, the dead piece of bone, which was the cause of this discharge, having become loose, was removed, and found to consist of fully an inch and a half of the entire thickness of the tibia.



After this the wound healed, but the union of the fracture was quite flexible, and in consequence the leg was useless.

Several attempts to induce consolidation, by complete rest, and also by introducing needles to excite the desired action, proved fruitless, and the boy was sent to his home in England with his fracture unmended.

Three months later the boy's mother wrote to me to say that they were going to have the leg amputated, as it was worse than useless.

Having in the meantime carefully considered the case, I had come to the conclusion that firm union had been prevented by the fibula, which, being entire, had kept the fragments apart from one another, and that, by removing a piece of that bone, consolidation might still be obtained.

Accordingly, in the hope of still retaining his leg, the patient was readmitted on the 8th of June 1877.

On the 13th of June I removed from under the periosteum as much of the fibula as was found to be requisite, in order to admit of the surfaces of the fracture of the tibia being brought into contact. The piece of bone which it was necessary to cut away was nearly an inch in length; that is to say, not much more than half as long as the piece of necrosed bone that was removed from the tibia nine months before. In other respects the operation did not differ from an ordinary one of resection, and the only detail which seems worthy of mention is, that, during the piercing of the lower fragment of the fracture (to admit the silver wire), a slight split occurred, causing a partial loosening of a small triangular piece of bone. This accidental circumstance may be looked upon as of some importance.

The limb was put up in splints, which were secured with plaster of Paris, before the patient left the table; the apparatus forming a modification of Dr Watson's splint for cases of excision of the knee, having the arched portion at the seat of operation.

Lister's antiseptic method was carried out in the case, and Esmarch's bandage and belt were used to render the operation bloodless.

After the first two dressings, the wounds were dressed only twice a week. During the first week the patient's evening temperature rose to 100°, but after that he made an uninterrupted recovery.

On the 15th of August, two months after the operation, the silver wire was removed from the tibia.

On the 23d August a small piece of necrosed bone was removed from the tibial wound.

On the 20th September the wounds were perfectly whole; and on the 18th of October, about four months after the operation, the splints were removed, and it was found that firm union had taken place in both bones.

In reviewing the case which I have now related, three points appear to be worthy of mention.

First, The principle of the operation, which is to remove the obstacle to the complete contact of the fragments of the fracture. This, of course, cannot be done without a certain amount of shortening of the limb.

It was observed by Sir Astley Cooper that osseous union is an impossibility in cases in which there has been a sudden and considerable loss of substance in one of two bones, such as the tibia and fibula, provided the other bone remains unhurt. And, since his time, there have been many proofs of the correctness of this observation. Thus, Mr Syme relates a case of compound fracture of the leg, in which the tibia alone was injured, its surface having also become bare to the extent of several inches. At the end of six weeks the patient became seriously ill, and it was discovered that the bone had died throughout its whole thickness, which circumstance, to quote Mr Syme's words, "rendered amputation indispensably necessary. For although the patient might possibly escape the danger of longer delay, it was evident that, in the event of his doing so, the limb could not be of any use to him from the deficiency of bone. It was therefore removed."[1]

There is also, in the Anatomical Museum of the Edinburgh University, a preparation of the bones of a leg which had been amputated on account of non-union. In that preparation the interval between the fragments of the tibia is distinctly shown to be caused by the fibula, which, although originally broken, had united, retaining its full length.

Why the periosteum should thus prove unequal to the production of a solid substitute seems strange, when we consider that cases of necrosis are met with in which nearly the whole shaft of the tibia or ulna has been replaced. Nevertheless, the fact remains, and the suddenness of the destruction of the bone, in the cases we are considering, would seem to be the reason for the difference in the result.

[1] *Observations in Clinical Surgery*, page 25.

Secondly, I would observe that antiseptics are of marked importance with reference to operations of resection, and that they have done much to increase the usefulness of surgery in cases of ununited fracture. In J. M.'s case antiseptic precautions were most carefully used at the operation, and at each of the subsequent dressings, until the wounds were perfectly cicatrized and dry. At no time was there the slightest septic suppuration in the wounds. Without these precautions the risk to life would have been much greater, if, indeed, the operation had been considered justifiable.

To take one example of the influence which antiseptics have on the treatment of ununited fracture, we know that the results of resection at the upper part of the shaft of the femur, performed antiseptically, are so successful as to sanction the adoption of the operation. That is to say, a most useful operation has been added to the resources of surgery, for formerly resection in the upper half of the shaft of the femur was an unwarrantable operation. It is evident, then, that, as regards resection at any rate, an important advance has been made by the application of Lister's antiseptic method.

Lastly, I would refer to the circumstance that there was a small amount of necrosis at the place where the tibia was pierced. In successful cases of operation for ununited fracture a little necrosis is not an uncommon occurrence, and it would not be unreasonable to suppose that the action thereby excited would tend to aid the process of consolidation. On the whole, however, I regard the circumstance as having no favourable influence on the result, and believe that the more gently the necessary interference with the fragments is carried out the better for the patient.

This view would seem to be in accordance with the opinion expressed by Mr Syme in regard to the treatment of ununited fractures, which is given at page 14 of his *Observations*, in the following words:—"With regard to the treatment of ununited fractures in general, I had long been satisfied that the expedients in ordinary use, or at all events usually recommended, such as rubbing the broken ends together, stirring up their connecting medium by the introduction of needles, or passing sutures through it, if they were ever found to prove successful, did so, not from their own direct agency, but from the enforcement of rest conjoined with their employment, which would have been equally efficient, although not associated with any other remedial means."

I have now to thank you for your attention, and to hope that this communication has not been devoid of interest.

When I proposed to do the operation of removing a piece of the fibula, I had no idea that anything of the kind had ever been done before. I have since learned, however, that Mr Lister had an analogous case of fracture in the forearm, and to-night I have learned, for the first time, that Mr Annandale, some years ago, published a case in which he removed a piece of the radius for the same reason that the piece of the fibula was removed in my case.

ARTICLE VII.—*Thoughts and Suggestions concerning the Education of Deaf Children.* By JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond.; Fellow of the Faculty of Physicians and Surgeons of Glasgow; Aural-Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural Surgery in the Royal Infirmary School of Medicine.

"He grew up from year to year in loneliness of soul, . . . evermore were all things silent, wheresoe'er he moved."

THESE lines by Wordsworth, and which he wrote some fifty years ago of the deaf peasant, "a gentle dalesman," have suggested some thoughts to me in regard to the education of the deaf and dumb children of to-day. Why, for instance, are such children in this country permitted to grow up not only in "loneliness of soul," but in absolute silence, while on the Continent of Europe they enjoy the blessings of social intercourse and the freedom of speech? Why are hearing children alone destined to share the benefits that flow from improved educational methods, and the deaf ones condemned to be "fossilized" by a method that seems incapable of appreciating their destinies?—these and some other thoughts have called forth the remarks that follow.

The suggestions that I have to make in regard to the education of deaf, or deaf and dumb children, are set forth in the hope that they may serve to direct the attention of those who are specially engaged in the teaching of this class of our children, and cause them to think out the whole subject for themselves, in order to determine, if the system of education, now in almost universal use in this country in training the deaf and dumb, be the one best fitted for that purpose. Further, these remarks may not be without some value to those members of the profession who may, at some time or other, be called on to decide as to the best mode of carrying out the education of a child who has lost its hearing through disease, and after speech had been acquired.

Startling as the statement may seem, it is nevertheless a fact, that at birth all our children are dumb, having only the possibilities of articulate speech under certain conditions which may or may not exist. That these conditions do not always exist, or having once existed, become lost, is proved by the following facts, viz.: that many children remain dumb all their lives, while others who had acquired speech and spoken perfectly at one period or other of their lives, become speechless, and remain so. What the conditions are, under which articulate speech is acquired, I shall presently state. Meantime, I may remark, that when they do exist unimpaired, we see, as the young child advances in age, that the dumbness of infancy passes away gradually and almost imperceptibly, and that it is as gradually replaced by the faculty of articulate speech.

This transition from the state of natural dumbness to that of the possession of speech, apparently so spontaneous in its origin, and so speedily accomplished, is not really so, for we know well that "language is slow, the mastery of wants do teach it to the infant, drop by drop, as brooklets gather;" and, in fact, the earliest beginnings of articulate speech are acquired by the child only after the labour begotten of almost endless repetitions on the part of the parent.

The conditions under which the latent congenital possibilities of speech in the young child are developed, are as follows:—

A healthy brain, perfect hearing, and the society of people who themselves hear and speak an articulate language—these are the indispensable conditions. Good sight and perfectly developed vocal organs, as aids to the acquisition of speech, cannot be overlooked, although these are of less importance comparatively, as observation and experience teach us. For a child possessed of those conditions, that have just been named as indispensable to the acquisition of speech, viz., perfect hearing, a healthy brain, and the society of people who speak an articulate language, even though it were blind, would, notwithstanding, have its possibilities developed, till at length perfect articulation was on its part acquired in about the same time usually taken by the seeing child; nor would this result be much, if at all, hindered by a slight defect in the vocal organs; doubtless, under the latter circumstances, the quality of the vocalization would fall to be conditioned by the nature of the defect in the vocal organs.[1]

On the other hand, a child possessed of perfect sight and normal voice-organs, who lacks either the sense of hearing or the society of hearing and speaking people, or both together, grows up to be a speechless child.

From a consideration of these facts, it may be apparent to you, that the chief factors in the acquisition of articulate speech by the speechless child, are good hearing and an atmosphere (if I may so say) of articulate language.[2]

When we come to inquire into the causes of congenital or acquired dumbness, we find that, of the conditions first mentioned as necessary to the acquisition of language, the one which is most frequently awanting or defective, is the sense of hearing. So invariably is this the case, that it may be affirmed that the sole cause of speechlessness in the young child is deafness.

When we examine into the amount of tone perception that is possessed by these speechless children, we find that this feature of their cases serves to separate them into three classes—viz., into deaf-dumb, deaf-mute, and dull-hearing children.

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[1] But defects in the voice-organs of the deaf and dumb are hardly ever met with—so say all aural surgeons and others well qualified to speak on this point.

[2] Those children who have some defect of the brain, and in consequence are often deaf, and even blind, and who do not naturally acquire language, cannot strictly be classed with the deaf and dumb; and the same remark applies to those cases in which the organs of sense are perfect, the brain being feeble or badly developed.

The former are those who are deaf to all sound; the deaf-mutes are those who perceive, with varying degrees of acuteness, some of the tones of the human voice; the dull hearers are imperfect speakers, lacking the amount of hearing so necessary for educational purposes. Too often, however, these last named are regarded as "dull" children by those who are not ignorant of their infirmity, but who overlook, or it may be undervalue, the importance of good hearing as an aid to the successful educational training of young children.

We now come to consider the best means of educating these children, who, by their infirmity, are unfitted for ordinary schools.

The problem here is obvious enough; it is this—how best to develop the moral and intellectual, as well as the emotional, nature of a child who has only four senses, and who moreover lacks the common medium of intercourse whereby knowledge is communicated from mind to mind. A child who has neither hearing nor speech—rightly called "the vehicle of thought"—how is such a child to be educated, so that it shall take its place in the social scale, on terms almost of equality with its more fortunate hearing and speaking compeers; so educated, indeed, that it shall be able to compete with them in the "struggle for life," with a fair prospect of success?

To accomplish that is the problem of to-day, in regard to a class whose education is no unimportant matter, and who have a right to expect from us our greatest practical sympathy and help.

In the attempt to solve this problem, I think that there can be only one opinion as to the principle that ought to form the foundation of any method or system, in whatever way it may be carried out. If we would succeed in helping these children to attain to the standard of excellence just stated, the plan or system of education must be natural in its design and execution; indeed, only that one which approaches in any way closest to the mode that nature employs in developing the mind of a five-sensed child, can prove successful in educating the one who lacks both hearing and speech.

But here we are brought face to face with the barriers that hinder any such plan from being carried out in the case of a four-sensed child, as a deaf and dumb one may not inaptly be called; therefore, the plan of education fitted to develop the mind of such a child, besides being natural in design and execution, must also make special provision to meet the wants of this class; a substitute must be provided for the lost sense, ere the power to speak can be acquired, and as this happily is not impossible, these barriers are removed by patience and skill on the part of the teacher.

From what has been said, it may appear as if the problem above stated, and the standard of excellence set down, were easily solved and attainable by merely giving to the deaf and dumb child the power of articulation; but this is not the case, as I need hardly point out to those who are familiar with the past history of the education of the deaf and dumb in this country.

It may now be asked of me, by those to whom these suggestions are more particularly addressed, What then would you have us to do? Would you have us to discard an old and tried system, that has proved itself to be a blessing to the deaf and dumb, in favour of some other system of education that is untried and therefore unproved? To this I have to reply, that I would most certainly advise you to discard your present system of educating the deaf by silent signs and arbitrary gestures, for the following reasons:—It incompletely utilizes or develops the possibilities of the greater number of the class in whose interest it is employed; it is a system of silent signs, and therefore assumes what is not the case, that all deaf children are dumb, so that the child who is only deaf, and not dumb, is taught on the assumption that it is speechless, and therefore in time becomes dumb also; and lastly, but not leastly, this silent system has opposed a most effectual barrier to a fair and unprejudiced consideration of other and better methods of educating this class, whose very affliction hinders them from making their wants and needs known.

But I would not blame this method or its supporters unjustly, nor deny to it or them some measure of praise, and I am ready, therefore, to admit that it has done much good to a small number of those who are both deaf and dumb, and whose sight is damaged or altogether lost. To this comparatively small number of the deaf and dumb the system of finger-signs has indeed been an invaluable boon, for without its aid these afflicted ones must have gone uneducated, but I cannot go further in my meed of praise, for I feel certain that the harm which it has done, perhaps unwittingly, has more than counterbalanced all the good that it has effected. In spite of all this, however, I would not have you to discard this system of signs for any new and untried method of educating the deaf and dumb, however natural it might be in its design and execution. Happily, such a step is uncalled for, as the plan which at the present moment is most in accordance with the one that I have suggested, and which I recommend you to adopt in the place of the one to which you have clung so long, is an old and a well-tried one,—one, moreover, which boasts of a greater antiquity than yours can lay claim to, and which has shown itself capable of doing that which your silent system has failed to effect, viz., the full development of the natural possibilities of this afflicted class.

The system to which I refer, and which I recommend to be employed in the education of every deaf and dumb, or deaf and speaking child who has good sight, is the so-called "German" method of oral instruction, whereby the child is taught lip-reading, and the power of articulating clearly and easily. From the very outset of the child's education by this system, it is taught to articulate and to think, as well as to express its thoughts in its own language directly, *i.e.*, without the intervention of any signs or gestures other than those that are natural, and which we all use in one way and another every day of our lives. By it the deaf and dumb child is taught to hold free and unfettered conversational intercourse in articulate and audible speech with any person who addresses it; and all this it does simply by utilizing and developing in the deaf and dumb child the senses of sight and touch to such a degree of sensitiveness that they serve it all the purposes in the acquisition of language, and in a great measure, indeed, fulfil the office of the organ of hearing.

This plan, I venture to say, is fitted to help the deaf and dumb child to attain to the standard of excellence that I have adopted as a criterion of the method best adapted to develop the mind of the deaf and dumb, or deaf mute child, and therefore capable of making its social and intellectual life freer, broader, and riper than in the past—almost as free and unfettered, if not as complete, as that of the child whose speech and education has been acquired in the ordinary way.

ARTICLE VIII.—*On Wounds of the Palmar Arches.* By G. R. GILRUTH, L.R.C.S. Edin.

EVERY surgeon who has had an opportunity of seeing a wound of the palm, involving one of the palmar arches, knows how difficult it is to arrest the hæmorrhage. Dr Alexander Ogston says, "I have seen plugging of the wound, flexion at the elbow-joint, vertical elevation of the arm, pressure on and deligation of the arteries of the forearm and arm, fail to arrest the bleeding from a wounded deep palmar arch."

The practitioner who meets with such a case for the first time generally supposes that the bleeding from a wound that presents such a trifling appearance may be restrained by simple measures; and, besides, he feels some natural reluctance to cut into the structures around the wrist. Instead of enlarging the wound and securing the bleeding artery, compresses and a tight bandage are applied; but, as an oozing of blood still continues, recourse is had to styptics, then a needle may be passed deeply into the wound, and, lastly, the tourniquet is put on. As the bleeding usually ceases at times, he is encouraged by a delusive hope that he will yet be able to stop the hæmorrhage, and he therefore perseveres with these so-called simple measures until the patient becomes weakened by the loss of blood, and inflammatory swelling appears in the forearm.

White has well described this state of parts. "On the seventh day," he says, "I was called in consultation with Mr Allan to take off the arm. We found his hand and arm swelled to three times its natural size, from the frequent use of the tourniquet, which had been under a necessity of being moved to different parts of the arm on account of the excoriations it had occasioned. For the last twenty-four hours it had been applied almost without intermission from a dread of his bleeding to death."

Owing to the palmar fascia and the other structures, the wounded artery can seldom be seized until the wound has been dilated.

This is an injury which seems to be far from being uncommon; for, since 1876, no less than four cases have been recorded within the columns of the *British Medical Journal.* In the case reported by Dr Ogston, the deep palmar arch was punctured; the wound was situated on the radial side of the wrist, and was caused by a knife. Nine days after the injury was received, Dr Ogston cut down on the metacarpal bone of the index finger (from the back of the hand), separated the attachment of the abductor indicis from it, and exposed the wounded part of the arch; then, lifting it up by a tenaculum, applied a ligature on each side of the puncture. The bleeding was at once arrested, and did not return.

In Dr Donald's case, it was found necessary, nearly six weeks after the wound, to tie the brachial artery. The ligature was applied on the 25th February; but on the 4th March the bleeding returned, and the radial and ulnar arteries were tied. The hæmorrhage ceased, and did not recur. On the 30th March the man was dismissed cured; and, six weeks afterwards, the arm was found useful and natural in size.

In Mr Barwell's case the wound in the arch was caused by the bursting of a lemonade-bottle. The patient was admitted into Charing Cross Hospital on the 10th February 1877, and, although compression was tried, and a needle passed beneath the artery, the hæmorrhage frequently recurred, and on the 21st February the brachial was tied at its lower third. On the 17th March the patient, a female, left the Hospital with the use of her hand.

In the case treated by Mr Sydney Jones, the wound in the palmar arch was caused by the breaking of a bottle. A small traumatic aneurism formed in the course of the superficial palmar arch. A carbolized cutgut ligature was applied to the brachial artery at its lower third.

At the end of a few weeks the lad left the hospital with all the wounds healed, and with the "hand perfect."

Considerable diversity of opinion seems to exist amongst surgeons as to where the ligature should be applied; and from these cases it appears that the brachial artery, or an artery representing it, may be tied without arresting the hæmorrhage. Bell, in his treatise on the *Nature and Cure of Wounds*, says, that the wound should be cut up freely until the bleeding vessel is exposed. But after the forearm has become inflamed and swelled, many surgeons would hesitate to do so, and prefer deligation of the brachial artery. Bell, however, goes on to say—And in this particular case, the parts are so massed together, that he (the surgeon) can distinguish no one part from another, unless he prolong his cut either above or below the place in which the blood is extravasated where the arteries are free; in short, as he cuts through two inches of confused substance on so naked a part as the wrist, *e.g.*, he hardly doubts that he is cutting through the muscles and everything, while in fact he is only cutting through the skin, thickened to this degree by inflammation." When the superficial arch is wounded the bleeding may be said to come from the ulnar, when it is the deep arch from the radial artery.

Both of the vessels may vary in their place of origin; but more especially the radial artery, which may arise very high up in the arm. "In 94 cases out of 481, or about 1 in 5⅐, there were two arteries instead of one in some part or in the whole arm" (Quain). These variations will sometimes account for the failure of the ligature when applied in the course of the brachial artery. A consideration of this fact, along with the distance and importance of the brachial artery, would seem to favour the opinion that this ligature should be applied to the wounded arch.

ARTICLE IX.—*Quinine a Physiological Antidote to the Malarial Poison.* By FRANCIS W. MOINET, M.D.

THE most important and ancient of the uses of quinine depends, undoubtedly, on the power it has over malarial diseases, both as a prophylactic and curative agent,—a power which has not as yet been explained by our knowledge of its physiological action, but which is so evident, that by many it is considered a specific for these diseases. That it is not a specific we need hardly say, unless the term may be applied to a remedy whose power we know, but of whose mode of action we are ignorant, because it does not always act as a prophylactic when taken as a preventative, nor is it always curative, which would not be the case were it a true specific.

But so interesting a problem as the action of quinine in these diseases has naturally brought forward several theories to explain its action. The theory of its specific action hardly deserves the name of such on account of its improbability; other theories, however, have been adduced of a much more plausible and rational character.

Thus, Piorry, Mosler, and others explain the influence of quinine by an action on the enlarged spleen, viz., that the effect it produces upon the fever is in proportion to the reduction of the spleen; that the disease is cured simultaneously with the subsidence of the splenic enlargement; and that the fever is apt to recur as long as the spleen exceeds its normal size. This enlargement or engorgement of the spleen and other organs is, however, only a secondary phenomenon, and is a result, and not the *origo mali,* as Piorry and his followers assert, who declare the spleen to be the primary seat of the disease. Thus, according to Jacquot, Saurier, and others, people are said to die of malarial fever in Africa without the slightest swelling of the spleen. A singular case is also related, in which a man received an extensive wound of the wall of the abdomen on the left side, through which the spleen escaped; as it could not be returned it had to be removed.[1] The patient recovered from the operation, and had malarial fever afterwards, just the same as before, although eventually a post-mortem examination showed nothing but the shrivelled rudiment of spleen left.

Besides, M. Piorry's assertion as to the diminution of the size of the spleen after a dose of quinine has been disproved by many careful observers, and other investigators have failed in their attempts to reduce the size of the spleen in dogs by giving quinine, as Kuchenmeister and Mosler declare they did; so that, even granting the enlarged spleen to be the cause of the disease, the action of quinine in immediately diminishing its size remains to be proved, or rather has been disproved. Besides, in some cases of these diseases, the spleen is not enlarged, and yet they are cured with quinine; and in others the fever disappears before the enlarged spleen is reduced in size. Hence at the present day M. Piorry's theory is generally held to be untenable, as it is founded on false premises.

Then Binz advanced his theory, taking first for granted the germ theory of malarial poisoning, and arguing from the effects of quinine on the white blood-corpuscles, that in malarial fever it acts as an irritant to those germ cells, and so renders them incapable of further development, and thus arrests and cures the disease; and by its action on the white corpuscles destroying them, it diminishes their number, diminishes the functional activity of the spleen, and as a result the organ diminishes in size.

But this theory is based, as it appears to us, upon rather an unstable basis. First, because Binz takes for granted that quinine acts on the white corpuscles in the body as it does out of the body, his experiments not being received as at all conclusive on this point. Besides, the action of quinine in checking the movements of the white corpuscles is much more probably the result of an action on the walls of the capillary vessels, causing them to contract, than on the corpuscles themselves. As, no doubt, in relaxation of the capillaries approaching stasis the white corpuscles pass readily through the walls of the vessels, and by increasing arterial tension, this is prevented.

For this reason Harley is strongly of opinion that the beneficial influence of quinine in ague, and the removal of the splenic swelling, must be attributed to this effect on the bloodvessels by which the congestion is relieved, rather than to a restraining influence on the movements of the white corpuscles or leucocytes, as they have been termed. Harley's theory is certainly more probable than that of Professor Binz, because, as he says, if the white corpuscles were a species of entozoa, capable of an independent existence like the infusoria, then a direct action of quinine might be possible. But as we have already seen—however desirable it may be to reduce the splenic enlargement—it is not the cause of the disease, and hence treatment directed with this view does not relieve the symptoms of the fever, although it may benefit the local complication. Nor is it apparent that arterial relaxation is more marked in malarial than in other fevers, by modifying which relief from the symptoms might be expected.

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[1] Ziemssen, vol. ii. p. 645.

Secondly, he takes for granted, what is still unsettled, the germ theory of malarial poisoning. Thirdly, that on this hypothetical poison quinine must act as it does on some other germs, or on the white blood-corpuscles. That, in fact, quinine is a chemical antidote to the malarial poison. But its effects on these diseases do not support this idea, as we shall immediately see. As to its action on the spleen, that is of little consequence, as, of course, if the theory fails in the first part, its mode of action in regard to the enlarged spleen must also fall to the ground. All the more so, as we have already seen that the beneficial effects of quinine in these diseases are not the result of an action on the spleen. Hence neither the theory of M. Piorry, of Professor Binz, nor of Dr Harley is sufficient to account for the good results which follow the administration of quinine in malarial poisoning.

But by noting the symptoms of malarial fever and the clinical experience of its treatment with quinine and other remedies, and by examining the action of quinine and other remedies on the nervous system, we might, we think, get some further light on its action rather than by confining our attention merely to the more common manifestation of its physiological action.

For, by noting the results of treatment, we are often able to explain the action of remedies in the same way as a knowledge of the action of some remedies in disease has assisted us to a better understanding of the nature of these diseases. So, on the other hand, there is no reason to doubt but that a knowledge of disease and the effects of remedies will often throw light on their physiological action, and explain the *modus operandi* of their curative power, which is not always apparent from their action in health.

When quinine is administered in malarial fever, the beneficial effects which follow cannot be due to its having the power of eliminating the poison from the system, as it has no evacuant action by skin, bowels, or kidneys. Nor is there any evidence that the symptoms of malarial fever are due to structural changes of any organ, as the spleen, by acting on which quinine might prove curative.

It must therefore act in the system either on the paludal poison itself, by destroying it or paralyzing its power, or by an antagonistic action on the (nervous) system, protect it from the shock of the poison, and so prevent or modify those symptoms which are the usual manifestations of the disease. That is to say, quinine must be either a chemical or a physiological antidote; in the one case, the poison itself is attacked by the remedy; in the other, the system, at least that part of it which is the seat of selection by the poison, is braced up, so as to resist its power in whole or in part, according to circumstances.

That malaria is a poison cannot be doubted, although of its precise nature we are ignorant, and which, by entering the blood, gives rise to certain defined and well-marked symptoms.

The first of these two theories, viz., that of its being a chemical antidote, is almost analogous to that of Professor Binz, and of which we have already seen there is not sufficient proof. Still, the fact of quinine being a chemical antidote, might remain, although Professor Binz's theory be untenable, as it is, more properly speaking, simply an explanation of its action as a chemical antidote. Hence additional proof is required to refute the idea of its being a chemical antidote in any way.

This idea of its antidotal power appears to be in considerable favour with Stillé, who says,[1]—"Admitting that a morbid element in the blood is the immediate cause of the paroxysms of periodical fever, some such cure appears to be most consistent with probability." That it is not most consistent with probability we will endeavour to show, and also that the theory of its being a physiological antidote is the most consistent with probability, as we, like Stillé, believe that the effects of quinine can only be explained by the supposition that quinine eliminates, destroys, or renders inert or inoperative some noxious principle contained in the blood. A strong argument against its power as a chemical antidote is, that it, and other antiseptics, which have been given to cut short or prevent diseases, the result of a poison in the blood, have failed.

Thus carbolic acid, which is a powerful antiseptic outside the body, when administered in such diseases as scarlet fever, smallpox, and relapsing fever, in which diseases a poison is undoubtedly present in the blood, does not possess any antidotal power, the nature even of the poison having been demonstrated in the case of smallpox and relapsing fever. Besides, in the recently published results of Dr J. V. Laborde's experiments on the preventative and curative action of reputed antiseptics, he found in contradiction to the statement of Binz, that quinine, when injected in septicæmia, even in the highest doses compatible with life, neither acted as a preventative to the development of the disease, nor averted it when it was produced. And there is no reason to believe that quinine has any more affinity for the malarial poison than it has for the poison of these other diseases; and clinical experience supports this.

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[1] Stillé's *Therapeutics*, vol. i. p. 465.

Thus, in malarial fever, although quinine arrests the attacks in some, in others it only diminishes their intensity, and sometimes even fails entirely, and always requires to be repeated. This is decidedly against its antiseptic or chemical action; because it is not possible to believe in the power of a chemical antidote which requires to be so frequently repeated as quinine so often has to be, and which sometimes fails, or in a poison which proves itself so speedily active after its apparent destruction, so as to be able to reproduce all its former effects on the economy in so short a time, even after complete removal from the infected district, and when no new infection is possible. Indeed, the frequency with which quinine requires to be given, and the duration of the disease, notwithstanding its repeated administration, are all insurmountable difficulties in the way of accepting the theory of the chemical action of quinine on the malarial poison, more especially as the secondary lesions are not the cause of the periodical attacks. These paroxysms are, perhaps, the result of a somewhat similar process to what Heydenreich has shown to be the cause of the relapses in relapsing fever, viz., fresh crops of the germs (spirillæ), being cotemporaneous with the fever paroxysms.

That the poison of malaria must have the power of continuing or reproducing itself in the blood is highly probable, both from the duration of the disease and the periodical paroxysms. And if you suppose that quinine arrests a paroxysm by its chemical action on the poison, how is it possible to reconcile this with their continued recurrence after its repeated administration, and is so far antagonistic to the germ theory of malarial infection, *i.e.*, if quinine is capable of, as Binz asserts, paralyzing the irritant miasm by virtue of its antiseptic power, or rendering the germs incapable of further development? And certainly there is much more evidence to support the opinion of malarial fever being due to the presence of a poison in the blood, than there is in support of the theory of Binz as to the action of quinine. This word paralyzing is, however, rather vague, and perhaps is meant to be an apology for the recurrence of the fever paroxysms, and to signify that quinine does not always destroy, but only paralyzes for a time the obnoxious germs.

Surely this expresses a want of confidence in the theory, because, after arresting the antiseptic and fatal influence of quinine on such like germs outside the body, Binz argues from that a similar action within the body; and yet, if this be true, why does quinine modify what is a fatal action in the one case to a paralyzing one in the other, and where is the proof of it? Hence the theory of quinine being a chemical antidote or counter poison to the malarial poison appears simply untenable, and in the same category we may place the theory of Professor Binz.

The second theory, that of quinine being a physiological antidote, remains to be examined, viz., that by an action on certain parts of the nervous system it diminishes the shock, and thus either prevents or modifies the symptoms which are the manifestations of the action of the malarial poison on these parts. That the nervous system is, in the first place, the principal seat of selection of the poison, is generally allowed, both from many of the symptoms of the disease pointing strongly to a direct influence of the malarial poison on the nervous system, and also from the result of treatment, viz., that treatment directed upon this belief is the most powerful in ameliorating the symptoms or curing the disease.

Perhaps, as some believe, an excito-caloric centre is disturbed, whereby intermissions and remissions are produced.

This idea of an action on the nervous system is compatible with the need of repeating the remedy,—which, as we have seen, Binz's theory is not,—as the stimulus of quinine and of all other stimuli to the nervous system can only last a certain and limited time, depending on the dose and condition of the patient's health, and whether, as in the case of intermittent fever, there is any antagonistic or depressing influence at work. It is not only compatible with repeating the doses, but demands their repetition until the poison is exhausted, or dies a natural death, as there is no indication of its being eliminated. From this follows the approved method of administering the remedy. It also explains, what by any other theory is inexplicable, why quinine is sometimes unsuccessful and not always equally beneficial. These results being undoubtedly due to different causes—to the dose being too small, the use of bad preparations, the varying susceptibilities of patient to the action of the remedy, as is the case with the action of most powerful remedies, and also to the difference in the action and power of the poison in different constitutions and temperaments, the duration of the disease, and the presence or absence of complications or secondary morbid conditions, or to the disease not being correctly diagnosed, and being wrongly attributed to malarial poisoning. Another plea in favour of this theory is, that our knowledge of its general physiological action does not explain its effect in malarial fever, unless, according to M. Seé, who ascribes its effects in "ague to its action on the heart, diminishing its force and frequency; to its action on the peripheral arteries, lowering their tension and producing dilatation; to its action on the spinal cord and vaso-motor centres, acting as a sedative and diminishing their excitability, and diminishing the temperature of the body." Yet, as he says, it cannot be regarded as a specific or counterpoison in the various forms of malarial fever, as it does not prevent malarial poisoning when taken as a prophylactic, it does not prevent recurrence after a variable period, and it is useless in some of the most fatal forms, especially when the fever tends to assume a continued type. And although this statement of M. Seé is neither quite accurate in regard to the physiological action of quinine, nor to its power as a prophylactic, it explains what we mean when we say that its action in these diseases cannot be deduced from any of its known physiological effects, as none of these appear in the smallest degree likely to counteract the action of the malarial poison on the system, if we compare the symptoms of the disease and the known physiological actions of quinine. Besides, we have other remedies which act more powerfully in these respects than quinine, and which yet have no curative action like quinine in malarial diseases, as they would have were M. Seé's theory correct. Hence, M. Seé evidently thinks that what, perhaps, no one action is capable of effecting, when combined the result is successful. No doubt, the beneficial effects of quinine are due to its physiological actions, but certainly not to any one or all of those enumerated above.

But although, as we have said, the known physiological action of quinine does not apparently throw any light on the connexion between its action and the beneficial results which follow its administration in ague, do we know all its actions? Certainly not. If we do not know its action in intermittent fever, then how are we to discover it?

As every one knows, there are certain actions of remedies, especially on nerve structures, which it is impossible directly to demonstrate, but an action, of which indirectly very strong and even conclusive proof can be obtained by noting their effects; although this is much more difficult when we have to examine their actions in disease, and of which in health there may be little or no evidence. "Thus," Binz says, "we are ignorant of any direct relation between quinine and the nervous system which might be utilized for therapeutic purposes, although we cannot deny that such may exist. Any direct tonic influence exerted by quinine upon the nervous system is at present purely hypothetical, and unsupported by a single experiment."[1] This is, in fact, just what we might expect. You cannot prove by direct experiment what does not exist, viz., the action of quinine in ague on a healthy man or frog. The proof must be from the effects of its action in disease, *i.e.*, clinical experience; and in this way it is possible to get, we believe, as conclusive evidence as by direct experiment.

That quinine is a nervine tonic even Binz allows is probable. That it is, we think there is sufficient proof over and above its tonic action to the general nutrition by stimulating the digestive functions and retarding tissue metamorphosis. Because, in certain nervous derangements, it proves curative in virtue of this action, as it can be by no other, long before it could have time to improve the general nutrition, as in periodic neuralgia, asthma, laryngismus stridulus, rigors, etc., etc.

Its beneficial influence in those diseases which we know are due to a disturbance of enervation, must be due to an action on the nervous system. This is borne out by clinical experience, for quinine is beneficial in neuralgia, just in proportion as the cause is of purely nervous origin, and occurring in those in whom there is want of tone.

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[1] Binz's *Elements of Therapeutics*, p. 210.

Stillé thus explains its action in periodic neuralgia, "by regulating and moderating the disorder of the nervous system," and then explains its action in intermittent fever, "by directly neutralizing a material poison, or causing elimination from the system." That it does not do the latter, we have already seen; as to its being a chemical antidote, clinical experience is against it: then, why not apply the explanation of its power in periodic neuralgia to its influence over malarial fever? It is the most probable of the explanations, and the only one which clinical experience supports.

In all these nervous diseases there is good reason to believe, that not only is some part of the nervous system either primarily at fault, or the point of attack, but also that in some the whole nervous system is in an atonic condition or unstrung, as they occur most frequently in those of weak constitution, whether this condition is hereditary or acquired. In others, the disease or symptoms are the result of a sudden shock, which suddenly and for a time only reduces the nervous tension and brings it below par.

Take, for instance, the rigor, etc., which frequently follows catheterization. This is undoubtedly due to an impression or shock to the nervous system, and which can be prevented or checked by a dose of quinine. The action of quinine on the nervous system is therefore here as evident and undoubted, as that the rigor is the result of functional disturbance of the nervous system, the one mutually proving the other.

Quinine can, therefore, arrest other rigors and fever paroxysms than those which occur in intermittent fever, and that without there being any suspicion of the presence of a poison in the blood. But, no doubt, poisons in the blood, by acting directly on the nervous system, can disturb it even more readily and directly than the presence of a foreign body in the urethra. Still, there is no reason to prevent quinine acting in the one case as in the other; only in the case of a poison in the blood, like the malarial, the quinine must be repeated, if these shocks or periodical attacks are to be prevented, until the poison has exhausted itself. The greater powers of quinine in malarial fever than in other fevers can readily be accounted for by not only the blood poison being of a different nature, but chiefly by the different seat of selection of these poisons. Whenever in disease, however, the symptoms of the attack approach the type of malarial fever, then quinine is beneficial; that is, when that portion of the nervous system or part of it is involved which is always implicated in malarial poisoning. So that we have proof that quinine exerts the same action in other diseases besides those of a malarial origin, which is against the chemical action of the drug, and, from the nature of the cases in which it proves useful, is strongly corroborative of a tonic action on certain parts of the nervous system, and therefore of its being antagonistic to the action of the malarial poison as a physiological antidote.

In health this action of quinine is, however, not very manifest. But the symptoms of cinchonism, headache, buzzing in the ear, confusion of sight, etc., point undoubtedly to an action on the brain ; and that not only does it act on the brain, we may readily infer from its other effects, just as alcohol acts as a stimulant or sedative to other parts of the nervous system in addition to the brain. The cerebral effects are, however, the most prominent, as they are most clearly and quickly evident from its delicate functions being so readily disturbed.

And although this beneficial action of quinine is not usually apparent until some time after the symptoms of cinchonism have disappeared, that is, until it has prevented or diminished the next paroxysm of the disease, it does not by any means follow that therefore the curative power of quinine cannot be due to a stimulating or sedative action, because those sensible effects have ceased ; unless it were held, which it is not, that the malarial poison acted principally on the brain, or that, with the disappearance of these most prominent effects, all the other actions of the drug ceased. It simply shows that certain of its cerebral effects have diminished, just as with alcohol, which first excites, and then acts as a sedative, when the excitant effects pass off, or are merged into other symptoms, we cannot say that alcohol has ceased to act ; and even when all cerebral symptoms disappear, its stimulant action lingers in other parts until it is entirely eliminated from the system. It is also possible to understand that the beneficial result of this stimulant action may be shown after elimination of the stimulant.

For instance, if by a dose of quinine the next attack of fever which would naturally occur twenty-four or forty-eight hours afterwards is prevented, it does not follow that quinine waits on the paroxysms and then attacks it. The beneficial action commences as soon as it is absorbed, and by its action on the nervous system the paroxysm is prevented not by an action twenty-four hours after administration, but by its immediate action preventing that disturbance, which in time develops into a fever paroxysm. So that we must not always take for granted that the most obvious effects of nervous action are the only ones produced by remedies, as an action that in health may not be manifest, may in case of functional derangement be actively remedial, which is the reason why certain curative actions of remedies are only witnessed in disease. Nor is this action peculiar to quinine. Compare, for instance, the effects of arsenic in chorea with what are ordinarily known as its physiological actions; and in regard to it the same may be said as is said by some of quinine and its action on malarial disease, viz., that its effect in chorea cannot be explained by its known or evident physiological action; yet no one can doubt that arsenic acts in chorea purely as a nervine tonic.

Another link in this chain of reasoning is, that other nervine stimulants, as arsenic, caffeine, alcohol, beberia, piperine, gentian, capsicum, strychnia, etc., although differing considerably both in kind and degree of active power, have some power over intermittent fever and other diseases of a nervous pathology. In fact, as adjuvants, and occasionally as substitutes, they are invaluable, as clinical experience has amply testified.

In virtue, however, of certain peculiar properties, one is more useful than another in different nervous diseases, due partly to their somewhat different actions, the part of the nervous system affected, and the cause of the disturbance. Thus, quinine appears to exert an influence on that part of the nervous system for which the malarial poison has a special affinity; and in virtue of this, is more curative than the other remedies, just as arsenic has a special tonic influence on the motor nerves, in virtue of which it is more powerful in chorea; and caffeine, an action on the pulmonary nerves, which renders it more useful in asthma. Hence we believe quinine to act in malarial disease as a stimulant or sedative to the nervous system, especially to that part most implicated in these diseases; and that it is principally in virtue of this action that it proves curative, by rendering the malarial poison inoperative by an antagonistic action on the nervous system, and that it proves beneficial in proportion as the nervous disturbance is predominant, and to the absence of complications. Although we arrive at this conclusion by argument, and not direct experiment, the evidence in its favour appears to us so strong as to give it the place of a more than probable theory, and to be a much more reasonable explanation of its action than any other as yet brought forward; and that by this method of reasoning it is possible to arrive at correct conclusions in absence of direct experience, the literature of therapeutics amply shows.

ARTICLE X.—*The Protection Bed and its Uses.* By W. LAUDER LINDSAY, M.D., F.R.S.E., Physician to the Murray Royal Institution, Perth.

IN all classes of hospitals, public and private, and in all ordinary dwellings that are for the moment, by the illness of some of their occupants, converted into hospitals, there are every now and then patients whom it is most desirable to keep comfortably and safely in bed, and whom it is difficult or impossible, with ordinary appliances, to nurse or treat properly, unless they are prevented leaving bed at undue seasons or under unfavourable circumstances. There are, for instance, helpless patients—such as *epileptics* and *paralytics*—who are apt to fall out of ordinary open beds that have no means of protection at the sides; and the result of such falls, in the absence of nurses, say during the darkness of night, may be either dangerous bruises, fractures, dislocations or other injuries, suffocation, or the setting up of rapidly fatal acute inflammations from exposure to cold. Then there are persons labouring under the various kinds of *delirium*, who, eminently, but aimlessly, restless, are perpetually getting out of ordinary beds and wandering about their apartments in their thin bed-dresses. Here the results again are various, according, for instance, as the escape from bed happens by daylight or during the night. Suicides by precipitation from windows or by means of cutting instruments; escapes into town or country in the dead of winter and death by cold; fatal injuries from knocking against furniture or by falls of all kinds; struggles with captors, involving equally serious injuries, or at least, the risks thereof; or fatal pneumonia, phthisis, or other acute inflammations set up by prolonged or sudden exposure to intense cold—are all among these results. Next there are the *maniacal* inmates of lunatic asylums or private houses, who are ready for every kind of self-destruction or other mischief whether by night or by day.

At present, and for the most part, such patients are treated in hospitals or ordinary dwellings, in some of the following ways:—

1. They are subjected to various forms of *mechanical restraint;* they are bound to their beds by various combinations of sheets, straps, or other fastenings. This mode of restraint is exemplified in the treatment of delirium tremens patients in many hospitals and jails. The patient may not, however, be fastened to bed, but only rendered helpless and motionless, so that falling or getting out of bed becomes impossible. This is accomplished, for instance, by what is known as the "wet-pack" system in certain English lunatic asylums, the most complete form of mechanical restraint that has yet been devised; as well as by the use of strait-waistcoats, handcuffs, and various modes of fastening together the legs.

2. They are forcibly held in bed by relays of *attendants*, at least two attendants being required on either side of the bed. The result of this mode of management, which is a personal or manual, instead of a mechanical, restraint, is quite as disastrous as mechanical restraint itself is or can be, even when employed or applied in its most objectionable forms.[1] Exasperation on the part of the patient; incessant struggles between him and his attendants, whom

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[1] I have contrasted manual and mechanical restraint in certain Medical Reports of the Murray Royal Institution, *e.g.*, 37th (1864), p. 12; 39th (1868), p. 16; as well as in several papers in the *Edinburgh Medical Journal* (*e.g.*, in vol. xi., 1865, p. 449; vol. xiv., 1868, p. 333; and vol. xvi., 1870, p. 421).

he naturally regards as cruel tormentors; exhaustion, sleeplessness, bruises, or other injuries, are among the many fruits of such a treatment. I find it increasingly difficult to get good attendants, especially female ones. They object to all sorts of extra trouble or risk; they demur at cleansing the dirty, at dressing the untidy, at running risks from the violent. Rather than do any of these things they refuse or resign office. Again, the best-natured of attendants are prone to lose their tempers under intense and continuous provocation; hence the assaults so frequently made by attendants on patients in lunatic asylums, where these attendants are called upon for the exercise of virtues that, did they exist, would be more than human. Lastly, the very best of attendants—of hireling servants—require incessant supervision if they are to do their duty to patients requiring unceasing care. Whenever they are left to themselves, these attendants become careless and neglectful; and the interests of the patients necessarily suffer.[1] In Scotland, at least, we have nothing, so far as I know, comparable with the nursing of the Roman-catholic brotherhoods, and especially sisterhoods, of the Continent. There whole hospitals, including those for the insane, are "served" by men or women, or both, who, from the highest motives, devote themselves to the care of the sick, and whose service is consequently of a real and trustworthy kind. But that sort of human nature which looks simply to the profit to be made by nursing—that of which the nurses of some infirmaries and the attendants of our own asylums consists—is not of the same noble order. And we must take our nursing materials as we find or can make them.[2]

3. They are thrust into *padded rooms* which sometimes have padded floors. There, on a mattress or without one—but without any kind of bedstead—the patient is left to himself. The result of this sort of "liberty of the subject" on the one hand, and of "seclusion" on the other, is that the patient frequently strips himself quite naked, and crouches in a corner of his "cell," exposed to the dangers already described from cold.[3] Or he is restless, mis-

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[1] Thus, on visiting an hospital cholera patient during the night, I have found the patient dying and the nurse dead drunk, having swallowed all the whisky, brandy, or wine intended for her charge. And this particular form of neglect of duty is only too common both in male and female attendants.

[2] I have repeatedly, during the last twenty years, pointed out—in print—how ample and excellent a sphere the care of the sick in hospitals—both for insane and sane—offers to "unattached" or single women of the middle and upper ranks. Thus, there is a short special notice of "What Educated Women could do, but don't," in *Excelsior*—a publication of the Murray Royal Institution in 1864. (No. 19. p. 7).

[3] Thus, perfectly nude lunatics, without an article of clothing or bedding in their cells, have been exhibited to me, through eye-holes and double doors, in asylums which boast that they are conducted on the "non-restraint" principle—meaning that they are ruled by the mischievous dogma that in no form, and under no circumstances, should mechanical restraint be employed or applied.

chievous, and destructive—amusing himself by tearing to shreds his body and bed clothing, as well as by stripping off the covering of the padding of the walls or floor of his cell and dragging forth the padding itself.

4. They are *drugged* or drenched with all manner of *narcotics* or soporifics, sedatives or calmatives, in doses that are at all times dangerous, and are not unfrequently—directly or indirectly—fatal: the immediate and perhaps the sole object being the induction of sleep, or at least of quietude, on the principle of "peace at any price."

Now none of these are fancy sketches. So far from there being any exaggeration—attempt thereat or desire therefor—it is simply impossible for me here to paint such pictures in their true colours—to describe what I have myself seen, and sometimes over and over again, in hospitals for the sane and insane in our own and other countries. That an immense amount of *preventible* mortality—disease, accident, misery—is the fruit of the improper management of patients belonging to the classes, for example, of general and other paralytics, epileptics, fever and other delirium cases, maniacal or other lunatic patients, I have not the slightest doubt.

Very early in my own practice, twenty years ago at least, I was thoroughly dissatisfied with the current modes of dealing with such patients. Casting about for some satisfactory substitute, I was led, as life-saving or protecting apparatus, to adopt and adapt the idea of the crib-bed of the child—the cot so familiar in our nurseries,—adding, however, a lid in the case of patients who would scramble out of a bed with sides merely. In the course of twenty years I have had at least six kinds or forms of these beds made, according to the varying requirements of different kinds of patients. All of them were *experimental,* my object being to combine lightness of weight, easy carriageability from place to place, with strength sufficient to resist the violence and the destructive propensities of the maniacal. Sometimes all six beds were in use at the same time, for different kinds of patients; while at other times—and this usually—no such bed has been required in any part of the Murray Royal Institution; and it may here be added, that the institution does not possess, and never did possess, a "padded room."

The kind of bed that I have found most useful is the following; and I venture to recommend some such bed to the attention of the medical profession generally, because I am satisfied it is very much wanted in all departments of medical, surgical, and obstetric practice. I am not to be understood, however, as recommending only or preferentially to my confrères who are engaged in other departments of practice, the special form of bed that has been devised and used by myself. On the contrary, I desire it to be distinctly understood that

1. The same form or strength of bed that is necessary in one class of cases—say violent mania—is not necessary in others—for instance, helpless paralysis.

2. The locked lid is only to be used where necessity requires—where a patient would otherwise, to the risk of his life, climb over the sides of the bed.

3. The folding side and its low level, only a few inches above the floor, are most useful in paralytic or other cases that have frequently to be lifted out of bed in order to be bathed or cleansed, and the bedding removed.

4. The use of such a bed does not obviate the necessity for *special attendance*. On the contrary, it is an adjuvant to suitable attendance in a duly-equipped *sick-room*.

Each physician, surgeon, or obstetrician may make his own modifications on the general principle of its construction, viz., that a bed for certain classes of invalids should consist of four easily-movable, separate parts, viz. (1) a lid; (2) a box-like body having a folding side; (3) a stand for the said body; and (4) a bottom.

My own experimental beds have had to be made of sufficient strength to withstand the violent assaults of the ingenious, persevering, strong maniac; and I have not yet found it possible to combine strength of spars in the lid, for instance, with desirable lightness or thinness. All our spars have been occasionally broken by the strong grasp and wrench of destructive patients—a difficulty that might, of course, and probably should, be got rid of by the use of mechanical appliances for the confinement of the hands.

I have designated the bed I have been so long in the habit of using "The Protection Bed"—a term happily applied to it, many years ago, by Dr Browne of Dumfries, when he was one of H.M. Commissioners in Lunacy for Scotland, and who had occasion to see such beds in use here during his official inspections. Moreover, he had himself, when at the head of the Dumfries asylums, used beds of a somewhat similar kind. And in America such beds are, and have long been, in common use in its hospitals for the insane.[1]

The appearance of the bed I have myself used, and still use, as well as the various details of its construction, are given in the accompanying plate and its description; but certain general remarks regarding it must be made here.

With certain exceptions, the whole bed may be made of any ordinary pine, or white or *soft* wood, and varnished. The exceptions are the spars of the lid, and the feet, which should all be of birch or other *hard* wood.

Both the interior and exterior may be decorated by various forms of stencilling or hand-painting.

There is no occasion for padding the interior. I have had at least two padded beds; but I did not find these padded beds superior in any respect—even in epileptic cases—to unpadded ones.

Each bed should have at least two—and much better three or four—movable bottoms, so as to admit of change and cleansing in the too-probable event of soakage by urine.

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[1] A paragraph on "The Use of the Protection Bed" may be found in the *Edinburgh Medical Journal*, vol. xiv. 1868, p. 332.

The lid should be so hinged to the body of the bed that it can be removed at a moment's notice; and, when not in use—that is fastened down—it should always be completely detached and kept in a separate room. If it be simply thrown up against the wall without being unhinged, an incautious attendant, a restless or mischievous patient, may, by a slight push or pull, bring it down with such force as to produce fatal injury to the head, or serious fracture of a limb, should either head or limb be in its way. By making it a rule always to keep the movable lid, when not in use, in a separate room, and to remove it to that room the moment it is unhinged from the body of the bed, there would be no risk of injury from such a source.

The interspace between the spars of the lid should be such as to prevent extrusion of the whole hand or of part of the arm; for if the hand and arm be permitted free operation outside the lid, endless mischief will result—apart from the fracture of the spars themselves, whereby, of course, greater scope is obtained for freer action on the patient's part.

The lid, when down, should be firmly fastened to the body of the bed, and this is accomplished in three ways:—

1. By insertion of a strong metal pin through the point of the tongue of the hinge. 2. By the close adaptation of a bead on the edge of the bed to a groove on the under side of the lid; and, 3. By the use of a padlock or other form of lock.

The folding side of the bed is most conveniently fastened by means of brass sliding-bolts, sunk in the wood. I have tried various kinds of hooks and eyes, but they do not keep the side so tight, and they are apt to be unloosed by the busy fingers of the patient if by any means he gets them extruded through the spars of the lid.

The bedding may consist of ordinary or special mattresses, pillows, blankets, quilts, and sheets, according chiefly to the habits of the patient as to the passing of urine and fæces, or as to destructiveness. In the case of those who pass all their evacuations in bed, I have found it most convenient to divide the mattresses into three equal portions, the two end ones being made in the ordinary way of the ordinary materials, while the central one is a small bag filled daily with fresh, washed horse-hair. I prefer the latter arrangement to the use of perforated mattresses, covered with indiarubber sheeting. I know no worse material to use than the latter in the case of patients who incessantly soak their surroundings with urine. The Mackintosh sheets, so generally used in such cases, very soon smell abominably, the result of the decomposition of the urine, which attaches itself quite as firmly to such an apparently non-absorbent material as it does to absorbent blankets or sheets. Nor have I found any mode or degree of washing, deodorizing or cleansing sufficient to purify this contaminated sheeting. I think it better now to use no indiarubber or guttapercha appliances of any kind in such cases; or, indeed, in any cases at all, for they become useless simply by age.

In the majority of cases, ample room may be given to the patient in the protection bed for tossing or turning. But, in exceptional conditions, it is necessary so to fill the bed with mattresses and bedding that the patient has room only to turn comfortably. Otherwise certain restless, mischievous patients can strip themselves and crouch at one end by piling up the mattresses and bedding at the other; or they get underneath all the mattresses, and so lose advantage of the soft and copious blanketing provided.

All such instances of mischief arise from leaving the fingers or hands free; and the obvious means of preventing it, therefore, is to resort to some means of confining the arms and hands. I am aware of no good end to be attained by bestowing freedom of action in such cases. The result is simply incessant activity and wakefulness; and this is indubitably exhausting and injurious. On the other hand, there is everlasting risk of mischief—both to the patient himself and to all who come in contact with him—by leaving to him an amount and kind of liberty of which he makes no good use. There is nothing to prevent the application of mechanical restraint in such cases but the circumstance that this—the most humane, the most common-sense, means of treatment—runs counter to the spirit of the age, to that paramount " public opinion " to which most men bow down in servile idolatry. This public opinion against the use of mechanical restraint, for instance in the treatment of the most dangerous forms of violence, that of the maniac, was created mainly by the doctrinaire Conolly, and has been fostered by the official behaviour of Government Boards of Lunacy, and by the press, medical and general. It is, nevertheless, based on one of the grossest absurdities and fallacies of the day—an egregious error, to which thousands of lives have been ruthlessly sacrificed.

I have been in the habit of using the protection bed in a comfortably heated and furnished *sick-room,* whose arrangements are presided over by a *special attendant,* usually the most experienced attendant in the institution. Whenever it becomes desirable that the patient should be raised from, or allowed out of, bed, this attendant calls what assistance he requires, and the patient's interests are sedulously cared for. This personal supervision goes on night and day; for such sick-rooms are never left untended by a proper officer.

The general result of the use of the protection bed, in some of its forms, as compared with the orthodox modes of dealing with the classes of patients already described, is this — in my opinion—that it is directly and decidedly conservative of life and health, and preventive of injury and disease.[1] And, in virtue thereof, I believe its employment to be one of the most important practical matters that can attract the attention of the physician, and especially of the hospital physician. By non-professional persons who have unhappily had relatives requiring at home some such adjunct to personal nursing, the value of such a bed has been perceived at once, so that I have had occasion to lend out for long periods some of our spare protection beds for the use of invalids kept at home for private treatment.

Very naturally it may be, has been, and no doubt will continue to be, argued, that grown-up men and women must resent being treated like *children*—literally "cribbed, cabined, and confined," as they are, in beds with sides and covers. And it is the case that certain patients do resent the use in their persons of the protection bed, objecting to the lid especially. But the same patients resent, and as violently, the simple deprivation of their liberty, their removal from home, their compulsory confinement in an asylum, and the whole discipline to which they are there *nolens volens* subjected. And the real question in such cases is, or ought to be, not what the patient resents or objects to, but what is for his benefit, present and future. All parents are agreed as to the inexpediency of indulging children in all their whims, or of listening to their protests against all that which, though disagreeable, is nevertheless salutary. And insane patients are very much in the position of *children;* with the added power for evil that greater strength and size and a developed mind can confer. But incalculable mischief results at the hands of Lunacy Commissioners and patients' relatives from not treating the insane, in certain respects at least, as children. Not what is best for them, but what will gratify or pacify them, is what is too frequently considered; and hence laxity is substituted for stringency of discipline where the one is no doubt the more agreeable to the patient, and the other, with still less doubt, is the more salutary. As regards the protection bed, then, the real question is, not whether this or that patient likes it or objects to it, but whether its use is indicated, in his case, as likely to be beneficial.

It has occasionally happened, in my own experience, that the most violent maniacs have become quiescent whenever in such a bed they have found themselves *mastered* and powerless. And in such cases, in this form of bed only, has sleep occurred after many nights and days of struggle with attendants. This sensation of being *mastered* is one that must be produced in many violent patients if discipline is to be successfully carried out in lunatic asylums. It is all very well for *doctrinaires*, who have never themselves had to contend with the difficulties connected with the

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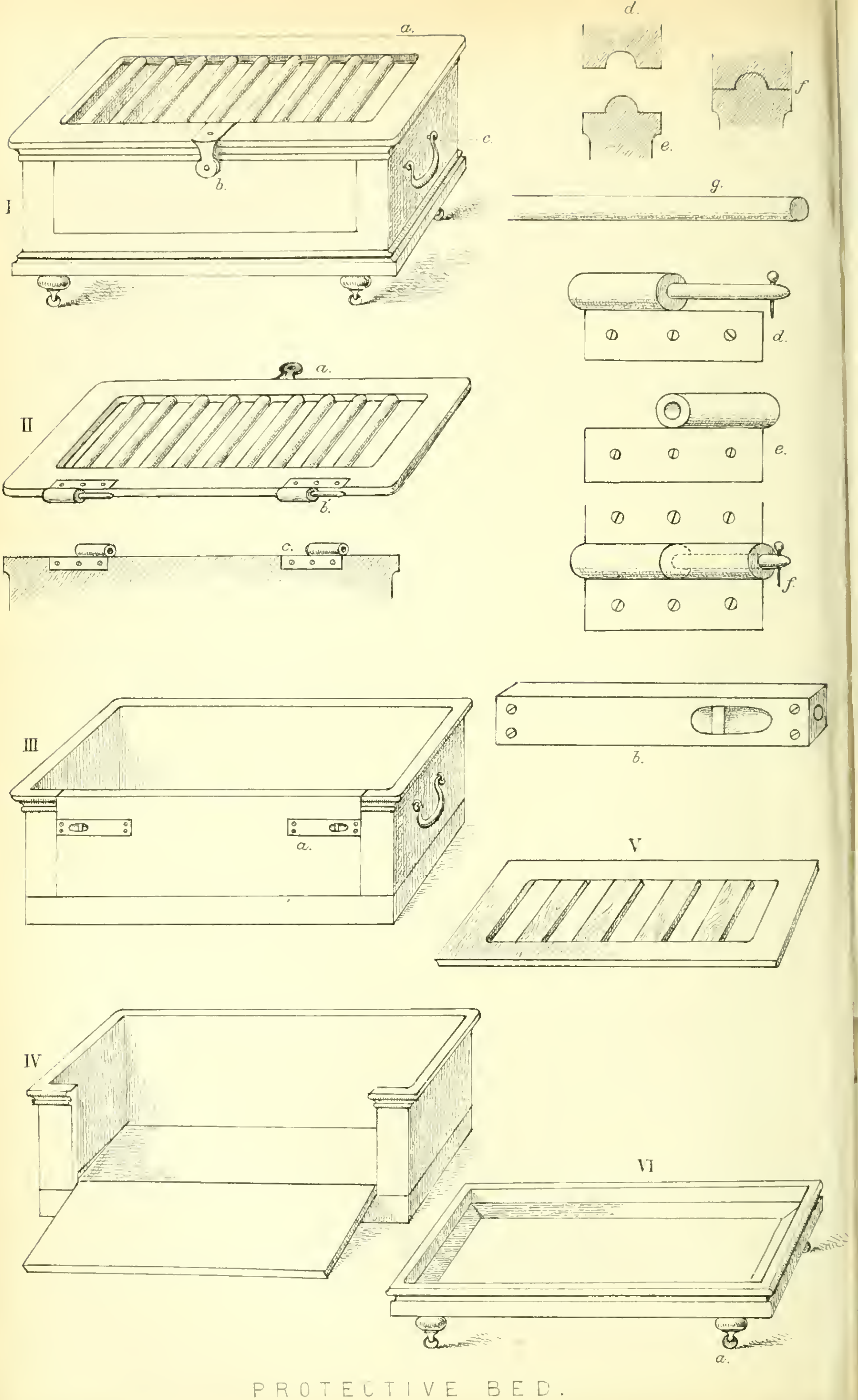
[1] Its use in the treatment of the insane is specially commented upon in the Medical Report of the Murray Royal Institution for the Triennium 1865-8, p. 15.



PROTECTIVE BED.

W. & A.K. Johnston, Edinb.

management of maniacs, to talk of "moral suasion." In many cases it is of no use whatever, and nothing but *superior physical force* is to be trusted to. Were not the physical force, and the intelligence with which it can be duly applied, on the part of our asylum staff, superior by far to that of the patients, asylum discipline—asylum treatment—the present "humane system," as it is called, of dealing with the insane, would be impossible. And it is from the non-application of physical force, judiciously and dispassionately of course, in cases requiring it, that so many accidents occur to and from the insane, both out of asylums and in them.

On the other hand, I have had patients, such as fragile, hysterical young ladies, sent to me from other asylums where their maniacal violence had been repressed by manual, not mechanical, restraint, and who were utterly exhausted by want of sleep and by incessant struggles with attendants—struggles directly provoked by the mode of treatment. These patients were at once consigned to the protection bed, in which they slept like children. And not only so, but they acquired such a preference for their "cribs," such a confidence in their protective power, that they have asked to be allowed to go on sleeping in them—sometimes even with the lid in use, where it was not for any other reason than the gratification or satisfaction of the patient required. Moreover, they have themselves contrasted this mode of treatment with the other—favourably as regards the bed, and favourably as regards also mechanical compared with manual restraint.

While in some cases, then, there is a terror of, or objection to, the protection bed, of the same kind as that which exists in regard to lunatic asylums, as supposed places of punishment and certain places of detention, in others there is quite as marked a liking for it and appeal for its employment; just as, in certain cases of recurrent mania, the patients themselves voluntarily, and most wisely, "seclude" themselves in their own rooms, in defiance of all the dogmata of Lunacy Boards as to the imaginary evils of "seclusion."

DESCRIPTION OF PLATE.

FIGURE I.—The protective bed when in full use, that is, in all its parts, lid as well as folding side; size about 6½ feet long, 2½ feet broad, and 1¾ feet deep.

a. Hinged lid—the mode of hinging being shown in Fig. 2.

b. Padlock or other means of locking the lid.

c. Heavy iron handles at either end for facility in carriage.

d. Section of the lid, and,

e. Section of the side of the bed, showing how they dovetail into each other, when,

f. The lid is closed, and so render it fast.

g. Section of one of the round transverse spars of the lid, the space between each spar being 1 inch, the diameter of each spar itself 1 inch to 1¼ inches.

FIGURE II.—The lid upraised and separate so as to show how it is readily hinged to, and disjoined from, the bed.
- *a.* The mode of fastening by padlock or otherwise.
- *b.* The hinge hooks which work in
- *c.* The sockets in the side of the bed.
- *d.* One of these hinge hooks separate, the flat portion being fastened to the under side of the lid by strong screw-nails; size of hook, 3 inches—of barrel 5 inches.
- *c.* One of the sockets separate, the flat portion being fastened to the upper edge of the bed-side, also by strong screw-nails; length of barrel 2½ inches, so that ½ inch of the hook may protrude.
- *f.* Shows the hook and socket when the former is pushed home and the hinge is in use. Near the point of the projecting part of the hook is a hole, through which a loose pin is inserted, in order to prevent the lid being moved off by lateral pushing.

FIGURE III.—The body of the bed—by itself—showing the folding portion of the side, which is hinged in the ordinary way and fastened by
- *a.* Brass slip bolts.
- *b.* One of these bolts separate.

FIGURE IV.—Body of the bed, showing the folding side lowered.

FIGURE V.—Movable bottom of the bed, consisting of simple flat wooden spars with open interspaces.

FIGURE VI.—Stand for the body of the bed.
- *a.* Casters, to allow of easy movement from place to place.

THE NEW DENTAL BILL FOR 1878.

THERE is at present before the dental profession a bill intended for its regulation, entitled the Dental Act of 1878, and expected to be passed into law during the present year. The principal objects provided are the registration of all dentists, the prohibition of using the title of dentist, or practising as one, unless so registered; and, as a necessary accompaniment, the institution of an examination and diploma, or other educational qualification conferring the right of such registration.

In considering this measure, there are three points which demand attention. The first is, What legislative enactments are desirable in such a case? the second, What appear to be those absolutely necessary? and the third, and not the least difficult to determine, What regulations of the kind are possible to be carried out?

With regard to the legislative enactments which it might be desirable to apply to the regulation of dental practice — this depends to a considerable extent on what the interpretation of dentistry may be considered to be. Unquestionably, whatever special department in the practice of medicine or surgery any man may devote himself to, that man ought, nevertheless, to be as fully qualified a medical or surgical practitioner as if he were in general practice. Circumstances may no doubt render this difficult of attainment; or they may so combine as to produce men exceptionally well qualified and successful as specialists who are not fully qualified practitioners. But, as a general principle, such is the correct rule to be laid down.

In the case of the dentists, however, difficulties do present themselves, rendering the obtaining, in every instance, a full medical or surgical degree a matter not very easy of accomplishment. This arises from the unavoidable admixture here of the mechanical element. The essential feature of the dental profession is the supplying of artificial substitutes for the teeth when the natural organs have been lost or removed. This has been and always will be an obstacle to that branch securing that its practitioners shall in every case be qualified surgeons. This same admixture of a mechanical with a surgical character has and always will incline its votaries to consider themselves as appertaining to the surgical profession, and to designate themselves accordingly. From time immemorial, the dentist's workman, on assuming practice for himself, has aimed at the title of surgeon-dentist—a title which the general public in every other case, such as surgeon-apothecary or surgeon-accoucheur, associates with the full qualifications, and naturally supposes in this instance also as implying a similar position. It is in this necessary employment of mechanical assistants—or, in other words, mere workmen who anticipate being at some time or other dentists on their own account—that the main difficulty consists, since they are derived in general from a class which has neither the means nor the opportunity of acquiring the status of the surgeon or physician, and who on assuming practice for themselves are not yet wholly dissociated from them. In this way, then, supposing the correct abstract principle that those who undertake the treatment of surgical specialties should be fully qualified surgeons is to be acted on, the problem here presented is one not very easy of solution. With such a view it has been advanced that dentists should be divided into those treating dental diseases and those supplying artificial teeth, in the same way as oculists are a separate and distinct profession or calling from opticians. But in the one case the boundary line is much more easily and distinctly defined than in the other. The man who pivots a tooth has to work upon and to treat and handle pathologically and surgically a living organ—a tooth-fang—before he can satisfactorily execute his work. Two separate practitioners cannot accomplish what is here required so well as one; and in this way either the surgeon must be so far a mechanic as well, or the mechanic must, to a certain extent, be qualified to act as a surgeon. There is here, then, an obvious difficulty to be encountered, and the only way in which it can be met is by admitting that a certain proportionately small and limited amount of surgical skill is necessary in some of the mechanical operations of the dentist—properly so called; that the dentist possessing thus much surgical ability is fitted to practise all that essentially constitutes dentistry; and that this might be taken as the minimum qualification for registration as a dentist. Something of this nature seems to offer the only practical solution of the question, and one which in reality meets all the absolutely necessary requirements of the case. It is not essentially necessary that a man should be a qualified surgeon to constitute a successful gold-stopper, or to enable him to make a set of artificial teeth; but he must be a qualified dentist to do so. At the same time he might with advantage be also required to be so far surgically qualified as to be competent to extract a tooth or open a gumboil; but to do this he still does not absolutely need—although in some cases it might be better—to be a fully qualified practitioner. When, however, he comes to treat or to pronounce upon dental diseases, or accidents or anomalies as associated or complicated with general constitutional conditions, he then becomes bound to possess himself of the knowledge and acquirements of a general practitioner in addition to his dexterity as a dentist. A smattering of medical or surgical knowledge here is not expedient It begets rashness and leads into difficulty. Besides, it is altogether contrary to the spirit of the present age in medicine, since patients do not ask, how little knowledge will do for treating their case, but who has the most knowledge and acquirements for doing so. There is no harm—indeed it is beneficial—that a dentist should acquaint himself, as a mere matter of private cultivation, with medicine and surgery; but there is harm and danger in conferring, on the strength of a partial or fractional medical education, a *quasi* medical or surgical status and a corresponding designation. By drawing the line sharp and clear between the specialist who is not and the specialist who is a fully qualified medical man, both the practitioner and his patient have a guide for their proceedings which can be afforded in no other manner, while it avoids the risks of admitting half-measures or any compromise of a subordinate nature with an ambiguous medical or surgical title appended. It is then desirable, where it is practicable, that for the practice of dentistry a full medical or surgical qualification should be possessed; while it is not only desirable but reasonable, if not absolutely necessary, that every one, whether possessing a surgical qualification or not, should certainly possess in every instance a certificate of competence as a dentist, if he is to be registered and to practise as such.

In this way it will be remarked that the latter certificate presents itself as that alone guaranteeing fitness for and entitling to practise dentistry, strictly and properly so-called; and on this theory hinges the third consideration to be taken into account, namely, that any proposed regulation for dental practice should be possible of being carried out.

However desirable it may be, and whatever advantages might be thereby conferred, there is no denying that it would be oppressive, inexpedient, and uncalled for, to make it in all circumstances imperative that every one practising dentistry should be a fully qualified surgeon. There are provincial districts where no inducements could be offered for such a class of dentists settling to practise as those who had expended the time and the money involved in obtaining a medical degree, unless they were also taking to general practice besides,—a combination which, owing to the exigencies of the two callings, would be incompatible. Such districts, nevertheless, afford remuneration and practice sufficient for maintaining a medical practitioner, and, in addition to him, might offer a moderate share of practice to a dentist in the proper sense of the word. In such cases a minimum qualification of the kind proposed would be advantageous in two respects. First, it would obviate the risk of such localities being deserted altogether by dental practitioners, as they would be by those of higher standing; and, second, it would afford an opening for dental practice to skilled workmen, who, during their dental apprenticeship and service as journeymen, have had no opportunity of obtaining more than qualifies for such a certificate of fitness and competency as that alluded to. And a certificate of the kind could easily be made restrictive enough to preclude any possibility of error either as to the privileges or the title conferred, and could be framed in so markedly subordinate a way as would keep clear of being confounded with the ordinary medical or surgical diplomas and designations. It may be objected that such an arrangement leads to a multiplicity in the grades of dentists; but this will always occur if a special certificate be given at all, as a certain number holding it will take a higher status by obtaining the full surgical diploma or degree as well.

And it need not by any means follow that the fact of some dentists holding a different status from others should interfere with the harmony of the profession at large, any more than is the case where in the medical profession one may hold only the license of a college, another the medical degree of a university; or where one man may rest contented with the university degree of M.B., while another goes on to the higher one of M.D.; or where the ordinary members or licentiates of a college or other medical corporation concede to its Fellows a certain position and privileges not possessed by themselves. There are grades in the medical as in most other professions; and why not similar grades be admitted among dentists?

If, then, any of the royal colleges or other licensing boards of the United Kingdom should agree under the privileges likely to be conferred by the Dental Bill to grant a special certificate in dentistry, there would be no inconsistency or violation of principle in the same board of examiners being empowered to grant a supplementary or minor qualification to those not possessing the surgical diploma; while, as in the case of the presently existing midwifery diplomas of some of the colleges, the major dental qualification would be held as obtainable only by those who already had become licentiates in surgery.

With regard to the distinctive designation accorded along with any such special diplomas or certificates, its meaning should be clear and unequivocal. The word "surgeon," introduced as an affix, or addition to such titles, has been the subject of some controversy. There seems to be considerable reluctance to part with it among those who are not surgeons, which is in itself a suspicious circumstance. If there be any meaning at all attaching to such an affix, it is that the person using it is a surgeon. This, at all events, is the popular interpretation of the word. If, on the other hand, it has no particular meaning, in such instances as those where the individual is not a surgeon, it had better be expunged. Cases have arisen where from a want of some definite legislation on this point, it became difficult to interdict the use of such term, and it is important that in the proposed Dental Bill this want should now be provided for.

There is also another light in which a precaution of this kind seems to recommend itself, and that is, in considering that the curriculum of study required for a dental qualification may not be the same at all times or in all the licensing bodies. The argument has been advanced, that with such a curriculum as that required by the College of Surgeons of England, the title of surgeon would not be misapplied to those who pass that board. But, in the first place, this consideration applies only to the private charter of that college, with which we have nothing to do; while, in the second place, it cannot be overlooked that, under the proposed new Act, in some cases the course of study may necessarily require to be made more limited and of a simpler nature—one, in fact, in accordance with the limited and simpler branch of practice alone provided for in the bill—namely, dentistry—and rendering a title implying anything else unadvisable and dangerous.

Should the bill become law it will render it legal for the Colleges of Surgeons of Edinburgh and Ireland, and the Faculty of Physicians and Surgeons of Glasgow, to institute and hold examinations for the purpose of testing the fitness of persons to practise as dentists; and any person who obtains such certificate shall be a licentiate in dentistry of such college or body, and be entitled to register as such. And after the 1st day of August 1879 any one not so registered, and who uses any title implying that he is by law qualified and registered under the Act, will be liable on conviction to a fine not exceeding £20.

Such appear to be the leading features of the Dental Act of 1878, and the principal points in it requiring deliberation before its different provisions are likely to be accepted by the licensing bodies as fit and proper to be confirmed and passed as a Government measure.

Part Second.

REVIEWS.

A New System of Medicine, entitled Recognizant Medicine; or, the State of the Sick. By Bholanoth Bose, M.D. Lond., M.R.C.S. Eng., H.M. Indian Medical Service. London: J. and A. Churchill: 1877.

Principles of Rational Therapeutics, commenced as an Enquiry into the relative value of Quinine and Arsenic in Ague. By Bholanoth Bose, M.D., etc. 1877.

We take these works together, because the author evidently means them to be mutually interpretative, and because both of them, in order to be understood, require all the sources of explanation that are available. This obscurity arises chiefly from the use of new and doubtful terms in setting forth facts and principles already accepted by the profession, and partly from an exaggerated view of the idea which the author holds, as he supposes, in contradistinction to his brethren. He has discovered, it would appear, that hitherto we have neglected "the state of the sick," or "the patient's condition,"—directing all our attention to the principal forms of disease and their common and prominent complications, while we overlook the real, although the insidious cause of death which is to be found in the peculiar state of the body. "All diseases," he observes, "may be said to have a twofold action on the living frame, viz., a forward and a backward at the same time. The forward is more or less circumscribed and most prominent, and is, in fact, the disease, including symptoms; and the backward, which is equally manifest, but pervades the whole system, is what constitutes the *state* of the patient. Clinical medicine, to be perfect, must treat both these actions in detail." "Thus, in phthisis, the most prominent event is undoubtedly the wasting of the body, a change more universal and alarming than the tubercular deposition which may have given rise to it. Still, viewed as a symptom, no more attention is—medically speaking—paid to this most important condition than would be accorded to it by an ignorant quack under similar circumstances. Why do we not dwell so largely and minutely on this consumption of the flesh, as on the tubercles which generally produce it?" The following paragraph brings out more fully perhaps what Dr Bose aims at:—

We are ready to confess that *the condition of the sick* has not been altogether overlooked, for such words as anæmia, plethora, emaciation, debility, infection, plague, etc., show that attention has been drawn to it. But what we contend for is, that it has not been described so fully and methodically as its immense importance would seem to require, and being, as we have said before, confounded with symptoms, it has lost that value and interest in the eyes of the profession which it should be our first duty to impress upon the mind of the student. The purpose of our present inquiry is not to delineate disease and point out symptoms, but to unfold and develop, as far as lies in our power, the *intermediate condition of the sick*, or the principle of morbid causation, by which our health is chiefly undermined and death works its way."

The expression *intermediate condition of the sick* refers to the author's distinction betwixt cognizant and recognizant conditions. "If we regard the *state of the sick* as being general and local, it would be found by the intelligent student that *recognizance* is synonymous with the former of those conditions, being extended from the seat of disease, or *morbid cognizance*, to the remotest living cell or fibre." But we get confused when the same words are used in a different sense, as appears to us—"the peripheral extremities (of nerves) on which impressions are made, may be said to take, as it were, the cognizance of events of which their central terminations (the brain, spinal marrow, and ganglia) take the *recognizance*, occasioning a sensation, cerebral, spinal, or ganglionic."

We cannot undertake to lead our readers through the twenty-five chapters of the book, extending to 212 pages, inclusive of a copious index. They may be read, however, with advantage. The author is in earnest, feeling that he has an *idea* to impress on his cotemporaries; and we admit its importance, while we think that injustice is done to the present as well as former cultivators of medicine, in supposing that it is either a new idea or one which has been lost. Dr Bose is evidently familiar with the recent discoveries both in physiology and pathology; and we rather think that some of them are brought freshly and vividly before his readers, so that there are many suggestive views presented in his pages, which may be profitable to unprejudiced minds. On the subject of inflammation his notions are peculiar. In fact, he would abolish the term altogether—tracing all the immediate effects, ordinarily ascribed to it, to *determination* and *congestion*. He holds "that all the chronic, passive, and subacute inflammations, whether the product be blood, serum, mucus, synovia, or liquor sanguinis, are synonymous with productive congestion, and the acute inflammations with productive determination." His convictions on the subject must be strong, when the cold composure of scientific discussion is thus allowed to reach the point of ebullition: "It is high time for us to discard for ever this meaningless impostor of a name, which has deluded mankind from the very cradle of medicine. The effusion of lymph, suppuration, mortification, ulceration, etc., are invariably the results of either congestion or determination, but not of inflammation, which exists nowhere in nature. It is simply a bugbear in medicine, the hobby of medical writers, and a phantom in science. The term inflammation, if it be still retained in the medical language, should not have more value than we attach to dropsy or hæmorrhage." Having disposed of inflammation, he treats fever in the like contumelious style. "Fever, strictly speaking, is partly congestion and partly determination, originally produced by spasm of capillaries." This view "will enable us to explain all the known phenomena preceding, accompanying, and succeeding that disease. It would also give us the means of not only confirming the truth, so far as there is any of the diverse opinions and observations of the past and living authors, but also of reconciling their apparently contradictory statements. And when we have fulfilled this task, we shall ask our professional brethren if they are prepared to cast into eternal oblivion another great bugbear in medicine, and an illusion still more frightful than inflammation, viz., fever." Does Dr Bose not see, that both of these terms are convenient representatives of conditions in the animal body, which are compatible with any views he or any one else may expound with respect to their nature? That he has furnished a new and satisfactory system of medicine, we are not prepared to admit; but we have no hesitation in saying that his book is a meritorious one in many respects, and will repay an honest perusal.

We would say the same in regard to the smaller work on "Rational Therapeutics." It is like a cock-boat, and must sink or swim with the larger. There are some good things in it; the following may be quoted, as noteworthy: "Five to ten drops of arsenic administered twice daily will cure recurrent kyâïtis (the author's name for fever); but it will fail to cure many chronic cutaneous diseases unless the dose be lowered to almost homœopathic bulk, for the best of reasons, that it must not be resented or repelled, which, in a larger dose, it would surely be, by the mucous and dermoid membranes; on the contrary, in smaller doses it will be kindly accepted in the skin tissue, so that it might slowly exert its peculiar alterative effect on them; and the cure of the particular cutaneous disorder depends on this mild local action."

Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques, illustré. Tom. XXIII. Mol—Néu. Royal 8vo. pp. 860. Directeur de la rédaction: le docteur Jaccoud.

SINCE the year 1822 when the famous *Dictionnaire des Sciences Médicales* (in 60 8vo vols.) was published, no work emanating from the French School of Medicine can be said to transcend in comprehensive breadth of plan, in exact and accurate execution, and in exhaustive scientific research, this elaborate serial work; one-half only of which has been as yet published. While Ziemssen's *Cyclopædia of the Practice of Medicine*, of which successive reviews appeared in this Journal (in August 1875, in February 1876, and in October 1877), is, in its own department, of perhaps surpassing value, the Dictionary now before us will become, we do not hesitate to say, both complementary and essential to every large professional library.

The twenty-third volume of Dr Jaccoud's Dictionary commences with a concise account of the *Molitz* climate in the East Pyrenees, its mineral waters and baths, with their therapeutic properties; and concludes with a satisfactory article on the *Neuroses*. At the close of each article in the volume there is, upon the whole, a fair bibliography, chronologically arranged; but which, in the case of the three articles which we mean to notice, is far from complete. In particular, however, the articles "*Monstrosities*," extending to 28 pages, "*Muscle*," 168 pages, and "*Nerves*," 344 pages, are creditably written, by MM. Verneau; Duval, Straus, and Le Dentu; and Labadie-Lagrave, Poinsot, and Duval, respectively: while each of these contributions is beautifully illustrated by figures intercalated with the text.

The author of the first of these articles, MONSTROSITIES, treats at some length of the theory, nature, or supposed causes of malformations. He adopts literally the threefold classification of I. Geoffroy Saint-Hilaire; but his teratological details are scanty. Nevertheless, some appropriate practical remarks are given us on the circumstances which precede or which follow the birth of monsters, in reference, *first*, to the period of gestation; *secondly*, the viability; *thirdly*, the accouchement; and *fourthly*, any surgical treatment that may be considered justifiable in such cases.

The article "MUSCLE," though limited in extent, is one deserving of much acceptance at the hands of the profession on account of the very accurate anatomical, histological, physiological, and pathological details contained in it. The *first* section describes the Anatomy and Physiology of Muscle. The author omits, however, to notice, under the head of development, the highly appreciated labours of Braidwood; and, under the head of the Muscular Fibres of the Heart, those of Meckel, Lee, and Pettigrew. But he is more happy in treating of the physiology of muscle, as regards (*a*) the phenomena of its contraction, including its change of form and muscular vibrations, with the myographical researches of Helmholtz and Marey upon healthy and tetanic muscle; the rapidity of the muscular wave; its forms of propagation, the duration of the state of contraction, and muscular tonicity; (*b*) the general properties of muscle, including its elasticity, extensibility, resistance to pressure, etc.; its electro-motor properties, its nutrition and chemical phenomena; the sensibility of muscular tissue, including a consideration of the so-called muscular sense—*conscience d'innervation musculaire* or *fonction psychique*; (*c*) the special properties of muscle, including its contractility or irritability under a variety of circumstances, and the various results in the economy produced by muscular action; and (*d*) the phenomena of cardiac action. The *second* section treats very fully of the morbid modifications of muscle, striped and unstriped, and is histologically illustrated by excellent woodcuts. A very interesting subsection is that entitled *Paralysie pseudo-hypertrophique, p. myosclérotique*, descriptive of a morbid condition found in infancy and youth, as first described by Duchenne of Boulogne, while the subsection following is entitled *Syphilis musculaire.*

This volume is no less trustworthy in its voluminous article on THE NERVOUS SYSTEM, under these several headings—*first*, the Anatomy and Physiology of the Nervous System; *secondly*, its *Surgical* Pathology; and *thirdly*, its Medical Pathology. Under the *first* section, structures are treated of in the following order:—(*a*) nerve centres; anatomical elements viewed histologically (1) in the spino-cerebral axis, (2) in the encephalos, spinal nerves, encephalic nerves; (*b*) physiology; excito-motor centres, properties of nerves, properties of centres, reflex acts, associate sensations, cerebral localizations in the hemispheres, diagrams and drawings showing the effects of wounds and experiments on the nerves, M. Duval giving, in conclusion, a due estimate of the observations and experiments of Fritsch, Hitzig, and Ferrier. Under the *second* section the subject is handled carefully as follows:—(*a*) Physical lesions, wounds, contusion, compression, pricking, foreign bodies; (*b*) organic lesions. Lastly, under the *third* section, or medical pathology, congestion and neuritis are treated of.

It may be added that the two concluding articles in this volume—one on *Neuralgia*, by M. Hallopeau, the other on *Neuroses*, by M. Luton, do credit to their accomplished authors, and to the editor of the dictionary, Dr Jaccoud.

Transactions of the Clinical Society of London. Volume the Tenth.
London: Longmans, Green, and Co: 1877.

THIS volume, which comprises the proceedings of the Society during its tenth session, October 1876 to May 1877, is introduced by an excellent address by the President, Mr G. W. Callender of St Bartholomew's Hospital. It contains sound advice as to the importance of accuracy and precision in clinical observations, as to the nursing, cleansing, and dressing wounds, and as to the close watching of disease through a course of many years, in which private has often an advantage over hospital practice. We believe that were this last suggestion more generally acted on, real and permanent additions might often be made to professional knowledge.

Mr Bernard E. Brodhurst, F.R.C.S., gives a good account of two cases of subcutaneous section of the femur, which terminated successfully. He remarks:—"It is desirable, in all cases, to make the opening in the skin longer than is absolutely necessary for the introduction of the saw or chisel (he prefers the former when the bone is much solidified and thickened), so as to avoid injury to the soft structures. The external opening may be always so placed that, when the operation is complete, it shall not correspond to the section of the bone; and, therefore, the subcutaneous character of the operation will not depend so much on the size as on the position of the wound." Mr Croft of St Thomas's Hospital, has a *Case of sub-cutaneous section of the femur below the trochanters for osseous ankylosis at the hip-joint.* It is interesting, as being the first on record in which the subcutaneous or valvular operation had been performed below the trochanters. There was profuse discharge of serum after the operation, which the author attributes, and we believe rightly, to the use of carbolic-acid dressings at the time of the operation. We refer, in connexion with these cases, to one of *Badly-united fracture of the femur treated by sawing across the bone at its angle, with antiseptic precautions*, by Mr Joseph Bell of Edinburgh, in the *Edinburgh Medical Journal*, March 1877. The plan adopted seemed to unite the advantages of subcutaneous and antiseptic surgery. Being subcutaneous, the entrance of air was prevented; being antiseptic, putrefaction was obviated; by attention to the escape of serum, tension was avoided. Two very creditable cases are related by Mr C. Heath, F.R.C.S., and Mr T. Holmes, F.R.C.S., in which the *left carotid artery had been tied for aortic aneurism.* In Mr Heath's case, the symptoms were much relieved for a year; but on the patient returning to his occupation as a labourer, the disease again advanced steadily, and the sac burst about four years after the carotid had been tied. The case related by Mr Holmes was far advanced before the operation was performed. Still a very great improvement followed, and the patient's life was manifestly prolonged. Mr Holmes seems justified in concluding—"That as our knowledge of the results of this operation becomes more exact, it may take its place among the resources of medicine in less advanced cases of disease."

Three cases of cancer of the tongue may be read with advantage. Mr R. Barwell, Mr George Brown, and Mr Warrington Howard, present them respectively under different aspects. The first used, with good results, the "Thermo-cautère;" the second excised the tongue with the wire ecraseur, after it had been affected with chithyosis for twelve years, and then with cancerous tubercles; the third treated a *recurrent* cancer by tying the lingual artery of one side. The cancerous portion sloughed, separated, and healed; but, unfortunately, the patient died a fortnight thereafter, from blood-poisoning in connexion with an abscess in his leg.

There is a well-told, and, as usual with that gentleman, suggestive case by Mr Furneaux Jordan of Birmingham, F.R.C.S., entitled "*A case of excision of the os calcis and the astragalus, in which the* *second row of tarsal bones was drawn underneath the malleoli."* He asks:—"Assuming that it is desirable to bring the scaphoid and the cuboid under the malleoli in excision of the os calcis and astragalus, can any special operation, or dressing, or position facilitate such a result?"

Transactions of the New York Pathological Society. Volume I. Edited by JOHN C. PETERS, M.D., President of the Medical Society of the County of New York. 1877.

THIS we regard as a valuable book of reference. We can see that great care and precision have been exercised both in observing and recording facts, and that the editor has studied a commendable condensation and accuracy of language. A very good rule has been hitherto rigidly observed by the Society,—we wish it were more general,—it is this, of being in no haste to publish, and to allow time for the accumulation and careful sifting of facts. Much compression is noticeable in many of the records—the more important facts only being fully brought out—while at the same time, such references are given to the original sources as to facilitate further research and inquiry, if that should be desired. There is a full table of contents, there are accurate headings of the pages, and there is an ample index, so that the reader finds easy access to a large and reliable fund of information and practical experience, which may help him very materially in the emergencies and difficulties of his daily practice. We recognise also a tone of fairness and justice pervading the book, which indicates both scientific interest and a laudable reverence and respect for good and true work, whether the man who does it has already gained a reputation or has still one to achieve.

This is not a volume to be read hastily at a few sittings, although, indeed, some of the cases have so much human interest mixed up with the details, and are so well put together, that they can be read from beginning to end with a feeling of satisfaction. But, as we have already warned our readers, it is suited mainly for special reference, as cases and occasions demand. In this view it will seldom disappoint, and will, as a rule, widen previous knowledge and assist in diagnosis.

The work is elegantly got up, and extends to 291 closely but clearly printed octavo pages. This second volume treats of diseases, etc., of the organs of digestion, and is based upon cases and specimens presented to the Society during the year 1875, but supplemented by numerous similar cases from 1844 to 1877.

The West Riding Lunatic Asylum Medical Reports. Edited by J. CRICHTON BROWNE, M.D., and HERBERT P. MAJOR, M.D. Vol. VI. London: 1876.

THE sixth volume of the *West Riding Reports* comprises thirteen papers. The one which occupies the place of honour is intended "to form the first of a series of investigations on the minute structure of the island of Reil, as found in the human being under varying conditions, and in the ape;" but after ten pages on the importance and nature of the said island, Dr Major leads us to the conclusion that in its cortical layers and minute structure it is not different from the gray matter of the vertex. It is, of course, hard upon an investigator that he can bring out no positive result; and as Dr Major seems to have done his work in his usual thorough way, we have to warn microscopists not to waste their time by making sections of the healthy insula.

The next paper is by Mr Crochley Clapham on "The Weight of the Brain in the Insane." To the 716 brains which he had weighed before, as recorded in the third volume of the *West Riding Reports*, he now adds 484, making a total of 1200 cases, 701 being males and 499 females. He finds the average weight of the male brain to be 1310 grammes, that of the female 1208 grammes. This bears out the statement of Dr Robert Boyd, that the insane male brain averages from 4 to 5 oz. heavier than that of the female. We do not know if any one has previously thought of weighing the brains of the adherents of different religions. The following passage records the results:—

"In the three great divisions of Christianity as professed in this country—Church of England, Protestant, Dissent and Roman-catholicism—it is curious to find that not only have the Roman-catholics heavier brains than the Protestant Dissenters, and these again than those of the Church party, but also that the cerebellum, pons, and medulla, as compared with the entire brain, are proportionately larger in the Church of England cases than in the Roman-catholics. And this is true of the women as well as of the men, as will be seen on reference to the foregoing figures. Of course my experience is only of the brains of the insane members of these classes, but judging from the general correspondence, as regards weight, between sane and insane brains, I see no reason to doubt that the same relation will hold good in the case of those enjoying their liberty."

The Roman-catholics will probably be disposed to think, that because they have heavier brains than those of Protestants the long controversy ought now to be wound up in their favour, but let them not be in too great a hurry: it is true that in the division of "no religion," the brain weight is smaller than in any of the other class save the Church of England, because, as concisely explained, "the brain average is lowered by the number of idiots included;" but there is still another class whose religion is "unknown," and whose brains have the highest average weight of all. Moreover, Mr Clapham has shown in another paper, which may be found in the *Journal of the Anthropological Institute* (August 1877), that the mean weight of 16 brains of Chinese Coolies is for males 50·45 ounces, and for the females 45·45 ounces. As this makes the Chinese heavier than the Catholic brains, there is some danger of Buddhism having the best of the controversy if carried on in this way. Mr Crochley Clapham quotes the words of Barnard Davis:—"My observations agree with those of Wagner, that weight of brain does not indicate any close relation to intellectual power, and also that aboriginal races are not to be distinguished for smallness of brains. In fact the ancient Britons, and I may add the ancient Gauls also, were remarkable for good-sized, nay even large brains."

Equally unsatisfactory to preconceived notions are the results of extensive examinations of the cranial outline of the insane and criminal, published in another paper of the volume by Crochley Clapham, and Henry Clarke, Surgeon, West Riding Prison. Mr Clapham writes:—

"On this point we are convinced from our own observations, that the heads in this asylum will compare very favourably, measured by the present standard of excellence, with the general average of sane persons, either as regards capacity, regional development, or symmetry. That there are symmetrical and distorted heads amongst the insane is undoubted, but the same is true of the sane; and with the exception of one type of head, which, so far as we can at present judge, is confined to the insane, we are able to match all the shapes observable in the insane with examples from the heads of sane people. The exception of which we speak, and which we have named the insane type, is the skull-shape in which the greatest transverse diameter is placed in the anterior third of the skull, and is in fact the head possessed of the noble forehead, of which so much is at present expected."

In the cranial outline, taken with the instrument used by hatters, called a conformateur, most heads are irregular, there is a bulging above and behind the ear on the left side. The most symmetrical heads were those of imbeciles, and in a majority of cases where there was left-handedness, the posterior half of the head was larger on the right side. Mr Clapham's two papers show both great industry in collecting facts, and much sagacity in analyzing and interpreting their meaning.

There is a very able and comprehensive article of 60 pages, by Dr J. Crichton Browne, on "The Pathology of General Paralysis of the Insane." Bringing to his task an extensive knowledge of the literature of the subject, and a close acquaintance with the symptoms of the disease, the result of sustained clinical observations, and a searching analysis of the lesions observed after death, Dr Browne seeks both to describe, and by the help of recent discoveries in physiology, to explain, as far as can be done, the nature of this formidable disease. There are two pages of lithographs illustrating the changes produced on the surface of the brain during the course of general paralysis.

The paper on "Hyoscyamine in the Treatment of the Insane," by Robert Lawson, M.B., shows good and useful work. "Hyoscyamine," he writes, "appears to me to possess great value in the treatment of cases in which aggressive and destructive excitement is the leading symptom of insanity, in cases of chronic mania with special delusions of suspicion, mania of a subacute or recurrent form, and simple mania, characterized from the first more by agitation than excitement, and due to the existence of obscure delusions and hallucinations. In the treatment of the excitement of general paralysis, in the epileptiform seizures of the same disease, and in the epileptic status, it is also of use where chloral, as rarely happens, is found to fail. But, perhaps, the most striking results from the use of the drug occur in the treatment of such patients as wilfully or impulsively destroy large quantities of clothes and bedding. Prolonged observation has shown how effectually it curbs the wantonness of the one form and soothes the irritability of the other. In wilful destructiveness, three-quarters of a grain or one grain, given in a single dose, reduces the patient to reason, and puts a stop for a considerable period, if not finally, to his expensive habits. In the cases where the tearing is carried on as a result of excitement occurring in the course of dementia, a quarter or an eighth of a grain every three hours (sometimes night and day) soon stops the destructiveness, and subdues the excitement without inducing bad effects on the general nutrition." As we always thought well of hyoscyamus, we are willing to hear good of its alkaloid, although we have not realized in our own practice all the benefits claimed for drugs patronized by the *West Riding Reports.*

"The Climacteric Periods in Relation to Insanity" is a subject which has been often discussed, and it is generally believed that the prognosis of insanity during the years in which it generally occurs in women was decidedly unfavourable; but Dr John Merson found, on examination of 147 cases in whom the attack was referable to the change of life, that "69 recovered, or nearly 47 per cent., so that the recoveries were somewhat more numerous in those that were at the change of life than in those whose disease could not be connected with this cause." We observe, however, that Dr Krafft Ebing, in a paper on the same subject in the *Zeitschrift für Psychiatrie* (xxxiv. Band, 4 Heft), reaffirms the evil prognosis in climacteric insanity; of 36 cases carefully analyzed he had only 6 recoveries.

Dr Milner Fothergill's notes "On the Therapeutics of some Affections of the Nervous System," shows a close grasp of the subject, and is both readable, suggestive, and full of instruction in practical matters. We are heartily glad to see so keen an intellect applied to the treatment of nervous diseases.

There is a special paper on "A Case of Epilepsy combined with Insanity." The patient was a single woman aged 28. The treatment ended in a complete cure. Bromide of potassium, chloral, and hyoscyamine were amongst the remedies used. She was under the care of Dr J. Crichton Browne.

Dr J. Hughlings Jackson concludes the volume with one of his characteristic essays "On Epilepsies and on the After Effects of Epileptic Discharges." He acknowledges in a note the priority of Dr Todd and Dr Alexander Robertson, who explained the paralysis which occasionally follows severe and protracted convulsions by the exhausting influence exerted on the cells of central ganglia, without much, if any, appreciable change of tissue. We never neglect to read Dr Hughlings Jackson's papers, and always derive profit from their study, but he approaches and deals with such difficult questions, that we are obliged, under the exigencies of time and space, to wait for another opportunity of discussing his well-known views. It would be a favour to the medical world if he would give them in a complete form. They are scattered over all the London medical journals, and he modifies and revises so often that one is not quite sure what his last opinion really is. By some species of association, one of Dr Jackson's essays on epilepsies always reminds us of his definition of an epileptic fit as an occasional, sudden, excessive, rapid, and local discharge of some part of the cerebral hemisphere. In conclusion, he asks the reader to bear in mind that the paper is unfinished, and that therefore his argument is incomplete, but promises to print the remainder of the paper for private circulation, "if his engagements permit."

To write thirteen reviews on as many different articles is no easy task, yet the papers unnoticed are each well deserving praise: they are, "On Classification and Nomenclature in Nervous Disorders," by Dr Rabagliati; "Calorimetric Observations upon the Influence of Various Alkaloids on the Generation of Animal Heat," by W. Bevan Lewis, L.R.C.P; "Cases on the Borderland of Insanity," by Dr Henry Sutherland; and "Clinical Notes on Conditions Incidental to Insanity," by Mr Lawson and Mr Lewis. Altogether, this is an admirable volume of the *West Riding Reports*, which no one interested in the treatment of insanity, or the diseases of the nervous system, can safely neglect to read.

Medical and Surgical Reports of the Boston City Hospital. Second Series. Edited by DAVID W. CHEEVER, M.D., and F. W. DRAPER, M.D. Boston: 1877.

THE present volume includes the second five years of the hospital's existence, and extends to 1st June 1874. It is very creditable in every way, even as regards the paper, the printing, and the illustrations. It commences with an elaborate description of the hospital itself, which is a comparatively recent building on the "pavilion plan," and believed, at the time of its erection, to contain all the modern improvements then accepted as essential in hospital construction. The experience of ten years, however, pointed out some deficiencies and errors, and in consequence of this discovery, certain important alterations and improvements have been already effected with the characteristic promptitude and energy of our friends in America. The object of the careful paper by Dr Edward Cowles is to show what has been done in improved hospital construction, and to set forth the reasons for the important changes and additions. It is fitted to supply valuable suggestions to those who are similarly engaged and are aiming at completeness in hospital arrangements. The drawings illustrative of the paper are numerous, full of detail, and beautifully executed.

There is much in the volume to interest the surgeon. We may instance a paper by Dr David W. Cheever, entitled "Unusual Operations on the Genital Organs," in which both mechanical ingenuity and manipulative skill are largely exhibited; a case by the same gentleman of "Excision of the Elbow-Joint;" and also a "Surgical Abstract," extending to more than fifty pages, and embracing many topics of great interest and importance. Dr Robert T. Edes has a valuable paper on "Certain Diseases of the Nervous Centres." Dr S. G. Webber contributes a suggestive paper on "Sclerosis of the Spinal Cord." We say suggestive, because he *dwells* on the important fact that the pathological change called *sclerosis* may affect different parts of the same cord, and thereby cause a complication of symptoms very confusing to the nosologist who deals with the names of diseases rather than the diseases themselves. "In *sclerosis* of the antero-lateral columns, any part of these columns may be affected, and the disease is usually scattered about in patches, affecting one side here, the opposite side at another place, while at still another both sides are found diseased. But neither in this nor in locomotor ataxia is the change limited to the portions above mentioned. In ataxia the lateral columns also may be affected; in *sclerosis* in patches the posterior columns are frequently implicated. Under these circumstances, of course, there may be a diversity of symptoms, and in certain cases it may be impossible to accurately state to which class they belong." An idea like this is "seminal and generative," as Bacon would say, and we thank Dr Webber for planting it. He says candidly with regard to treatment in sclerosis of the cord:—"I have never had a case of recovery, though such a result has been reported by others. One case which seemed to me at first to be ataxia recovered; but I am rather inclined to believe it was a case of rheumatic or gouty anæsthesia of the joints, with partial loss of muscular sense."

There is a good paper on "Albuminuric Retinitis," by Dr O. F. Wadsworth. It is careful, cautious, and sensible, and will repay perusal. The ophthalmoscopic appearances are admirably depicted and, we think, true to nature.

Surgeons will read with interest a paper by Mr B. F. Gorman on the Statistics of Major Amputations.

Altogether, the Boston Hospital Reports, like the *Boston Medical Journal*, stand very high in the list of analogous productions on either side of the Atlantic.

A Woman-Hater. By CHARLES READE, D.C.L. Edinburgh and London: William Blackwood and Sons.

LOOKING to the number of scientific works ever waiting for notice by the reviewer for such a periodical as this—works involving often the results of the labour and thought of years—there is seldom much reason to leave the accustomed path for the broad field of modern fiction. For, truth to tell, the said field, vast as it is, produces nowadays little that is original, still less, if anything at all, that is the fruit of genius. The mantles of Bulwer, Thackeray, and Dickens have descended on no shoulders fit to bear them. Makers of books there are by the hundred, good story-tellers by the dozen; but unless in the pages of her who conceived Daniel Deronda, where, in all the mass, can be found the impress of a master-mind?

Among the many bad results of the insatiable thirst of the public for fictional literature, and the necessity of satisfying this with some description of article, however second-rate, about the very worst is, that the modern *litterateur*, writing not for love of his work, but simply to produce so much copy at a given time, and, in most instances, utterly lacking either the psychological insight or the inventive faculty necessary for the production of a good novel, resorts to expedients which are utterly ruinous to true art and in the worst possible taste. Many of our readers must have come across novels bearing out the truth of what we say. Few professional readers will peruse without a feeling of pitying contempt that a great art should have fallen so low the novels of more than one well-known writer, in which the stale story of the horrors of our old lunatic asylums, and the defects long ago remedied of the Lunacy Laws, are dragged in, neck and crop, to supply an interest incapable of being provided by the author's unassisted efforts. Long after Conolly inaugurated the movement which made our modern asylums the pride of our profession and the wonder of all who visit them, did one after another of second-rate fiction-mongers produce volumes spiced with details of crimes and abuses which they had done nothing to prevent. When the cry of our sailors stirred the very deepest pulse of the nation to a mighty throb, then dozens of sensationalists postured as saviours of their kind, and made capital out of the terrible stories brought to light by the labours of Plimsoll and his followers; and long after every one knew that the Scotch Marriage Law had one or two notable defects, hundreds of indignant pages were written regarding hardships which no two decent people need suffer under. Such devices may possibly have gained now and then an ephemeral notoriety for some special work, but the fundamental laws of pure art cannot be trampled on with impunity. Early oblivion awaits the great mass of the fiction of the last ten years, during which, with the one exception we have already indicated, no classic novel has been added to the literature of the Victorian Era.

The above reflections were led up to by a recent perusal of a novel, "*A Woman-Hater,*" by Charles Reade. Into a detail of the plot of this curious work we shall not go. It would not repay the time and trouble. Of the characters we may be allowed to say a little. The woman-hater himself is a wealthy English country gentleman, a "Divorcé." He displays his misogyny by falling in love with almost the first woman he meets (in the novel). She is an opera singer, and the discovery of the fact that her husband is still alive does not prevent this fine middle-aged English gentleman following her everywhere. His confidant in the matter is a theatrical agent, of whom Mr Reade gives us the following touching description:—"He had a muddy complexion, hair the colour of dirt, a long nose, a hatchet face, mean, little eyes, and was evidently not a gentleman. He wore a brown velveteen shooting-coat, with a magenta tie which gave Zoe a pain in the eye."

From the conversation of this singularly well-matched pair, we will give one extract:—"Vizard was greatly moved. 'Give me your hand,' he said; 'you are a worthy man. I'll act on your advice and never forget what I owe you. Stick to me like a leech and see me off by the next train, for I am going to tear my heart out of my bosom." What a pity it is that Mr Reade did not give his attention to the development of this style. If he had, Harrington Vizard would certainly have proved a modern and successful rival to Mrs Malaprop.

Then there is Zoe Vizard, a young lady whose "hair was really like a raven's dark purple wing." Really we should like to have seen both her and the raven. Except her strong tendency to blush and her very unblushing tendency to run after her young man (said young man, of course, married already), there is nothing special to note about this young lady.

Ina Klosking has also peculiar hair; but hers is of a kind likely, we should think, to give her some trouble. "It coiled tight," we are told, "in a great many smooth snakes upon her snowy nape." Mr Reade does not mention the fact, but we should imagine that the effect of this serpentine display was of a startling, not to say disconcerting nature. Perhaps, however, she only indulged her weakness in private, and charmed her snakes and put them away in a box, after the manner of Dr Lynn's Hindoos, before she appeared in public.

There are, besides the above, numerous peculiar people whose sayings and doings are told in peculiar language. Chief of these is Rhoda Gale, M.D. This young lady is represented as one of the seven whose desire for graduation at Edinburgh University caused some stir at the time. Most people had thought that, lacking support from without and sapped by inherent sources of decay within, this movement had died a natural death. Mr Reade evidently thinks differently, and (through Rhoda Gale) takes up the whole matter with a fierceness and vigour rarely met with, unless in a sensation novelist with a stale grievance. At the very outset of Rhoda Gale's tale, he commits a breach of good taste, and displays a coarseness of touch which must ever seem a blot on his unquestionably strongly-drawn picture. Walking in Leicester Square, Mr Vizard sees a lady in a fainting condition, and (being a woman-hater) takes her to an eating-house and regales her with cold beef. Whereupon, with a rapidity of confidence only known upon the stage or in a sensation novel, the lady enters on the story of her life, and gives the poor woman-hater a gushing narrative of some seventy pages. Now, at first sight, this circumstance of one of these ladies dying from hunger in the streets of London is truly horrible, and Mr Reade surely needed some strong justification for publishing such an incident. If no such event ever happened, then he is using a weapon he has no right to whatever, and invoking sympathy and pity on false pretences. But, strange to say, when her story is carefully read, Miss Gale's state of want is found not to be due to anything connected with the Edinburgh struggle, but to the death of her father and to her own want of foresight and business capacity. The fact is, the incident is utterly strained and unnatural. Any one who would choose to starve in this country with as many friends to help her as Miss Gale had was committing an act of gratuitous folly. The story thus badly begun does not improve as it goes on —reckless assertion, considerable ignorance of the real facts of the case, and particularly an utter inability to recognise any merit in an opponent, or even to treat him with common courtesy, are among the worst faults of the story told by Rhoda Gale. Pettifoggers and fools, decent dotards, and their foulmouthed allies—trades-unionism and impudence—are amongst the terms used in regard to men whose lives are ornaments to their country, and whose sole fault at this time was that, jealous of the reputation of a great school and a great profession, they declined to countenance a revolution at the call of seven shrieking sisters. Their own leader, according to Miss Gale, was lion-hearted, and each of the seven a sort of angel in petticoats (Miss Gale does not mention what was the fate of the lion-hearted one at the first professional examination at which she appeared). Their male fellow-students are mentioned in the following:—"Now the medical student surpasses most young men in looseness of life and indecency of mind and speech." At one page we are told that, when mixed classes were in some cases granted, not one of the evils that were anticipated came to pass. A little further on is a graphic account of the riot caused by their presence at the College of Surgeons. Space would fail us to point out all the discrepancies and blunders of which the above are specimens. One piece of information we got in reading the novel which we never had before, and it is that Edinburgh University possesses certainly the oldest man and professor of this or any other age; our surprise is that we never heard of him, and our regret that we never saw him. Now, however, that he has been brought to light, let our Alma Mater cherish the man who "was a pupil of Bacon."

Mr Reade gives us a glimpse of Rhoda Gale in practice, and a great treat it is. Of course, like all scientific people in novels, she writes a "treatise" before she has had one atom of practical experience. Equally, of course, she walks into every cottage she comes to, and gives advice without its being asked; and, equally of course, being a woman, she flies off and leaves her practice to go where it pleases—the first time a feminine friend is in a love trouble. Fine plea that for the necessity of female doctors. We wonder what all the poor people in the village she took charge of did during their illnesses, while she was dangling after the opera singer and the woman-hater.

One scene more let us quote—short, yet pathetic.

Scene.—The village over which Miss Gale, M.D., has medical charge. Small crowd of women and children inspecting something on the ground. Small putty-faced boy in the distance. To these enter Gale, M.D., escorted by a young gentleman. Said Miss Gale, "Oh! I see the vermifuge has acted."

Traité d'Hygiène Publique et Privé. Par A. PROUST, Médecin de l'Hôpital Lariboisière. Avec 3 cartes coloriées et figures dans le texte. Pp. 840. Paris: G. Masson: 1877.

(*Continued from p.* 532.)

IN discussing the *statistics of marriage* in relation to health, crime, insanity, and mortality, the author brings into a focus and reviews many important and curious facts. We can only glance rapidly at some of them.

In England, at the last census, the annual average number of marriages to each 1000 of the total population was 14·76. In each 1000 marriageable persons—that is, in the population between 15 and 60 years of age—there were 64 marriages. Sixty-four is the number which represents matrimonial aptitude in England: in all France, it is represented by 57·2; and in that part of France called the department of the Seine, which embraces Paris, it is only 52·9.

The average annual number of marriages in France and in England during each of the seven quinquennial periods from 1831 to 1865 was in the

	France.	England.
First 5 years, . .	259,754	118,061
Second ,, . .	272,552	119,495
Third ,, . .	282,733	128,226
Fourth ,, . .	277,942	142,873
Fifth ,, . .	280,739	157,869
Sixth ,, . .	294,864	162,475
Seventh ,, . .	296,523	175,421

There was, therefore, it appears a much less progressive increase of marriages in France than in England. The exact difference in the rate of increase in the two countries is strikingly shown by the following table formed by Bertillon.

	1830-35.	1836-40.	1841-45.	1846-50.	1851-55.	1856-60.	1861-65.
France, .	1000	1049	1089	1070	1081	1132	1142
England, .	1000	1015	1086	1210	1336	1376	1470

It appears from French statistical documents, published by the Minister of Commerce, that in 1869 the proportion of marriages contracted in France, excluding Alsace-Lorraine, exceeded that of the ten previous years. In 1870 the number was 223,705, and in 1869 it was 303,482. That state of affairs terminated with the war; and marriages, without reaching their original figure, have much increased. In 1871 the number of marriages was 262,476. In 1872, the marriages contracted in France were 352,752, viz., 0·98 in each hundred of the population, being the highest matrimonial rate ever attained in France, for previously, even in prosperous years, the matrimonial rate had never before exceeded 0·82 per cent. It must be remembered that in 1870 the exigencies of the country called all the unmarried men into military service, which brought down the matrimonial rate to 0·60, and that in 1871, the year in which the war ended, it rose to 0·72. Many marriages took place in 1872 which had been postponed in consequence of the war levies of the two previous years having taken so great a number of men from their homes. In the department of the Seine, the insurrection of the Commune suspended the progressive increase which had been observed for several years, and caused a retrograde movement, which was not arrested till after the close of 1871. In that department, in 1871, there were only 14,714 marriages; before the war, it had furnished 16,702 in one year. The Seine is the department which gives the greatest percentage of marriages to population; in 1872 its marriage rate was 1·15 per cent. This greater percentage of marriages is entirely caused by the persons of matrimonial aptitude being more numerous in that department. In the Seine, the percentage of persons of matrimonial aptitude is 33; whereas it is only 25 in the provinces. In the Seine, the percentage of marriages in the population of matrimonial aptitude is 7·0; and it is 8·1 in the other departments.

The marrying age is not the same in all countries. In France, Italy, and Belgium the average age of men at marriage ranges between 25 and 35; and in England between 20 and 30. "Parisian marriages," says the author, "present a singular peculiarity, one of which would seem incredible were it not that the figures demonstrate its certainty. Between 25 and 30 years of age, the period within which marriages are most readily contracted in France, the number of Parisian marriages is lowest. It increases with the age; but it is only after 40 for men and 35 for women that Parisian matrimoniality, reaching its maximum, equals and exceeds that of all France."

Bertillon, we are told, estimates that *four* is the average number of living children born to each married couple in England. In France it is only *three*, and at the age of 20 this proportion is reduced to 1·92. The author, in relation to these figures, remarks:—"Our adult population only keeps up, or very slightly increases, by the assistance it receives from illegitimate births," p. 42.

The great influence which marriage exercises as a preservative from crime, insanity, and suicide is clearly shown. That it promotes longevity in both sexes is also statistically demonstrated.

The present progressive diminution in the *natality*, or percentage of births, in France is a fact of great interest. Its explanation is complex, and leads to many musings as to the future of that country, our own, and other countries.

"Natality," says the author, "has been decreasing, with regularity and constancy, in all the departments of France, since the beginning of the present century. The circumstances which may be considered as contributing to this decrease are:—the development and spread of civilization; emigration to the large towns; and the diminution in mortality. From statistics officially promulgated in 1877, it appears that since the close of the period embraced in Dr Proust's statements, the natality of France has shown a somewhat upward tendency.

"According to Broca, increased ease is one cause of diminished natality. Another reason assigned is the membership of the religious orders exacting celibacy having risen in number from about 157,000 in 1856 to 198,774 in 1864.

"Broca gives the following as the average number of children resulting from each marriage:—

From 1800 to 1805, . . .	4·24 children.
„ 1831 to 1835, . . .	3·47 „
„ 1856 to 1860, . . .	3·16 „

"From 1827 to 1868, according to official statistics, the proportionate number of births to population went down from 3·11 to 2·66, at which it has remained stationary for more than twenty years. This is a very remarkable fact in respect to the French population. No other nation presents a natality so low in degree, and at the same time so constant. In 1871, births were fewer by 122,405 than in 1869. The natality was 2·57 in 1869; 2·55 in 1870; and only 2·26 in 1871. In other words, in 1869, there was one birth to 38·8 inhabitants—in 1870, one to 39·4—and in 1871, one to 44·2. Natality, therefore, like marriage, experienced the disastrous influence of the events of 1870 to 1871. Although in 1872 the number of births rose to 180,879, the proportionate number only rose to 2·675 per cent., only surpassing the period from 1861 to 1868 by one and a half per cent. In France, then, no change in natality has taken place; and births continue to add a very small contingent to the population. The usual feeble fecundity was maintained in 1873 and 1874. In the latter year the number of births reached 953,652—only 7288 above the number for 1873, and 1200 below the number for 1872.

"If we take into account the very important differences of results in the department of the Seine, in the urban population, and in the rural population, we see that in 1869—which may be regarded as an average year—the natality for the Seine was 3; for the urban population, 2·85; and for the rural population, 2·45. In 1871, for the Seine it was 1·93; for the urban population, 2·46; and for the rural population, 2·22. Hence, we perceive that the late events [war with Germany] were most severely felt by the urban populations, and particularly by the population of the department of the Seine. The statistics of the years 1853 to 1860, inclusive, show that for the whole of France the natality was one birth to 38 inhabitants, and for the Seine, one to 31.

"In 1872, the percentage of births to inhabitants in the department of the Seine was 3·08; in the urban population, it was 2·84; in the rural population, it was 2·58; and in the population of all France, it was 2·675. The apparently higher rate of natality in towns depends simply on the fact that town populations contain a larger proportion of adults, and consequently a larger proportion of women fitted by age for maternity. But adults are least fertile where the population is dense, a statement to the truth of which the following facts testify:—In the department of the Seine, for 100 women between 15 and 45 years of age there were only 11·33 births, while for the other departments there were 11·89, and for all France, 11·84.

"If we compare the proportion of births for all France with the number of the reproductive part of the population, we find that the natality of the department of the Seine, far from being higher, is about equal to, or even a little below, the general rate for France—a fact in harmony with the long-known infecundity of marriages in that department—which is not compensated by its large number of illegitimate births. According to Lagneau's calculations, the real natality, or, in other words, the proportion of births to the number of adults between 15 and 60 years of age is 1 to 25 for France and for the department of the Seine; and that the fecundity of marriages, or the proportion of legitimate births to marriages, is for each 100 marriages 313 births in all France, and only 241 in the department of the Seine. In the period of twenty years from 1851 to 1872, the increased fecundity has been entirely due to the increase in the illegitimate births: they rose from 1·65 to 1·82 for every 100 unmarried women between 15 and 45 years of age, while, within the same period, the legitimate births went down from 20·75 to 20·69. Comparing with the intermediate period from 1861 to 1866, the opposite result is seen to have occurred in 1872; that is to say, there was a slight increase in the fecundity of married women, which was 20·69 as against 20·66, and a corresponding diminution took place in that of the unmarried from 1·85 to 1·82.

"Nevertheless, legitimate fecundity is feebler in the department of the Seine than in the rest of France; and natural births are four times as numerous. In the department of the Seine, the proportion of natural births are twice as great as in the towns and provinces taken together, and six times greater than in the rural districts. If, with Chevallier and Lagneau, we compare Parisian marriages with births in the 17th, 18th, and 19th centuries, we find that there has been a decrease in births to the extent of two-fifths in 200 years. In the 17th century, a marriage produced almost exactly *five* births; in the 18th, a little more than *four* births; and at the present time, scarcely *three*.

"In apportioning the births of each year to the total number of women living between the ages of 15 and 45, we obtain the following results for all France: in 1869, there were 948,526 births to 8,458,850 women; in 1870, there were 943,515 births; and in 1871, there were 826,121 births. These figures show that the proportionate percentage was 11·21 for 1869; 11·15 for 1870; and 9·77 for 1871.[1] The same mode of calculating, applied to the department of the Seine for the year 1871, gives only 7·11 as the percentage of births. That is the lowest point to which adult fecundity has ever descended; but in relation to this fact, it is necessary to remember, that a large number of families, and particularly a great many women, left the department in Sept. 1870.

"In 1872, the fertility of adults rose—100 women between the ages of 15 and 45 gave 11·68 births. The corresponding proportion for the first period between 1861 and 1866, inclusive, was 11·84.

"An influence on natality similar to that of the war of 1870–71 has been observed in Prussia. In 1866, at the time of the war against Austria, the proportion of marriages per 1000 had come down to 15·5 from 18 per 1000, the rate which it had maintained till that date from 1857; and the natality, which, having followed the progressive increase of marriages, had oscillated between 37 and 39, was reduced in 1866 and 1867 to 36·8.

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[1] "Bertillon takes for the limit of age from 15 to 20 in place of from 15 to 45: the tables which he has had the kindness to communicate to me are formed on that basis. W. Farr of London adopts the too extended periods of from 15 to 55 years."

"A compensatory movement had been established in the years 1868 and 1869, when the war of 1870 caused matrimoniality to recede to 14·7, and to 15·9 for 1871, a year in which the total number of births did not exceed 33·8 per 1000. The peace raised natality to its maximum. In 1872, 1873, and 1874, it reached 39·7 and 40, this enormous increase being proportionate to the increased number of marriages, which during these three years rose to 20·6 and 19·5, the highest marriage-rate ever observed in Europe."

The author next compares the natality of France with that of other countries. After again stating the decennial descent in the rate of births which has been going on since 1800, in France, from 32·9 to 26·3, he remarks that, together with a decreasing natality in France, there is an increasing number of marriages. This social phenomenon he explains by stating that in France "the voluntarily restricted fecundity of families prevents an increased natality [*la fécondité des ménages volontairement limitée, arrête le mouvement de la natalité*]. The increasing favour in which this practical Malthusianism is held not only explains the otherwise inexplicable fact that with an increasing matrimoniality there is a decreasing legitimate natality in France; but it likewise accounts for the small number of children born out of wedlock in proportion to the number of unmarried cohabiting couples which is generally said to be much larger in France than in any other country. That the well-to-do middle classes of France should so largely participate in placing this disastrous Malthusian dead-weight on the vitality of the nation has elicited expressions of surprise from numerous writers imperfectly acquainted with France; but the fact seems fully accounted for by the operation of an oppressive law; the oppressiveness of which is not, however, complained of by a people long inured, under different forms of government, to every kind of interference with what we regard as the inherent rights of individuals. We refer to certain clauses in the law of inheritance in the Code Napoleon, by which fathers are pretty nearly reduced to the position of liferenters of their estates. At the father's death, the law, on a prescribed plan, divides his inheritance, to a great extent withholding testamentary power. The operation of this law has enormously increased the number of landed proprietors in France. They are now said to amount to *four millions*, multitudes of whom are exceedingly small proprietors, corresponding somewhat to the classes in Scotland known as "wee lairdies" and "crofters." The four millions, desirous of preventing as much as possible the subdivision of their lands, "voluntarily limit" the number of their children. The frugal, plodding, unenterprising small farmers and vinegrowers who cultivate their own landed possessions usually limit their families to one, two, or three; and these little families are of course often extinguished by deaths. The systematic repression of increase so prevalent in France is a great social blight, a cause of national debility, which is probably irremediable. It betrays an inherent defect, an absence of the self-reliance and invigorating enterprise which characterizes that fusion of stocks which constitutes the English race—that irrepressible race which claims the world as its field of industry, founds English-speaking, liberty-loving nations in remote regions, and goes on "multiplying and replenishing the earth," in obedience to the Divine mandate, and the divinely-implanted instinct of reproduction. The British population has increased in number and prosperity at home, whilst it has been peopling vast countries beyond the seas. For such outgoings the French have proved themselves to be incapable; nay, their instinct has been shown to be opposed to emigration and free trade, and in favour of keeping themselves comfortably entrenched in their own country, secured against competition with foreigners and among "themselves" by miserable devices of protection, one of which is practical Malthusianism.

In the third part of his work Dr Proust treats of the *Hygienics of the individual man*, considering them in relation to age, sex, and employment.

Age being an important element in all that relates to the preservation of health, the type of diseases, and the therapeutic treatment of individuals, the physician has constantly to take into account the epoch of life to which his clients belong. Some individuals, from implanted constitutional peculiarities, and others from climate, the nature of their occupations, or their special surroundings, enjoy a prolongation of youth, while others become prematurely old: upon the whole, however (taking large numbers), the average physiological and pathological condition of individuals within the same periods is remarkably similar. The duration of the nine different epochs of life are thus set forth by Dr Proust and others:—1st, Fœtal or intra-uterine life; 2d, First period of infancy, extending from birth to the end of the second year of life, usually including, therefore, weaning and the principal part of the first dentition; 3d, Second period of infancy, from the end of the second to the end of the seventh year, during which epoch the first dentition is completed; 4th, Adolescence, from the end of the seventh to the end of the fourteenth year, during which period the second dentition is accomplished; 5th, Puberty, from the end of the fourteenth to the end of the twentieth year, the period during which originate new aptitudes and new functions—the functions of generation; 6th, Adult age, from the end of the twentieth to the end of the thirtieth year; 7th, Maturity, from the end of the thirtieth to the end of the forty-fifth year; 8th, Decline, from the end of the forty-fifth to the end of the sixtieth year; 9th, Old age, from the end of the sixtieth year to death.

Dr Proust gives an admirable exposition of the principles in accordance with which infants ought to be reared. Excellent practical rules are also laid down. Both the principles and the practice inculcated are greatly at variance with the customary management of infancy in France, where, throughout all classes, gross ignorance and mischievous traditions have as yet only partially yielded to the teaching of the medical profession. The typical French *bébé* is still a suffering creature, crowned with accumulations of encrusted filth, which water is not allowed to touch; and it is still tightly swaddled like a rigid Egyptian mummy, so that normal respiration, digestion, muscular movements, and growth are all impossible. Dr Proust denounces the cultivation of crowns of encrusted filth. "The toilet of the infant's head," he says, "demands special attention. It is not only useful to wash the head as the other parts of the body, but also to rub it with a piece of linen or with a very soft brush, so as to remove the dirt, pellicles, and crusts which there easily accumulate, and the appearance of which many still approve." In respect to infantile garments and the mode of dressing infants, Dr Proust denounces the old and still too common French customs, laying down principles and rules which are the unchallengeable outcome of physiology, of natural instincts, and of common sense. He says:—"The barbarous employment of swaddling-clothes [*l'usage barbare du maillot*], against which Rabelais long ago raised his voice, is now, at last, showing a steady tendency to disappear. It has become understood that infants are dressed to protect them from injurious external agencies, particularly from cold, and not with a view to trammel the freedom of their movements. A modification of the French swaddle, or the English swaddle, is now used. The modified French swaddle, preferable for the first months of life, generally consists of a shirt and a loose jacket [*d'une chemise et d'une camisole*], or a garment with shoulder-straps [*brassière*], open behind and tying with tapes (pins being objectionable)—wrapping-bands [*langes*] of linen and flannel—and a linen cap. The English swaddle consists of a long flannel shirt with a body, open in front in its entire length, and tied behind in its upper half—an upper frock, without sleeves, open in front only, and fastened with tapes and waist-band—two triangularly folded napkins, one of linen and one of flannel—and woollen socks. In whatever manner infants are dressed, they must not in any way have their movements impeded. There must be nothing to prevent the easy expansion of the chest, or interfere with the limbs being extended and flexed at pleasure. The head ought to be lightly covered; and at a very early date infants ought to be accustomed to have bare heads."

The author's views regarding the dressing of infants are sound and sensible, as we have already said, but they might have been usefully stated more in detail. The account of the English swaddle does not convey a complete idea of the manner in which English infants are dressed, nor does it give an exact account of the garments.

The urinous and otherwise very characteristic smell of French babies has been sometimes accounted for by their more complicated fastenings, causing mothers and nursery-maids to open up too seldom the swaddling-clothes for the requirements of cleanliness. The remarkable difference in the smell of English and French babies, however, more probably originates in the English inherent intolerance for excrementious smells and the French tolerance or liking for them. This curious national peculiarity is exemplified by the privies at railway stations throughout France, and by the stinking "English water-closets" which are reckoned among the curiosities of Paris.

The English plan of having the swaddles to open in front has the great advantage of enabling—we may say compelling—the person who has care of the infant to observe its attitudes and varying expressions of countenance, and thereby acquire an aptitude for early discovering its slightest deviations from health.

The feeding of infants is a too-commonly mismanaged affair, because meddlesome ignorance is always anxious to establish a claim for wonderful sagacity, and ever ready to advise young mothers to bring up their offspring in accordance with complex dietetic nostrums opposed to the simple programme of the Creator.

"The results," says Dr Proust, "furnished by anatomy, physiology, and experimental pathology prove, beyond the possibility of refutation, that milk is the infant's first food, and the only food which ought to form the basis of its alimentation during the whole of the first epoch of life. Till they have their first eight teeth, it is always premature to give infants any other kind of food than milk unmixed with other substances: it ought not to be boiled, and it should contain casein proportionate to the age of the infant. At birth, with the exception of the respiratory apparatus and the complex apparatus which constitutes the external integument, all the other organs, including those of digestion, are in a state of evolution. The mouth cannot easily exercise any movement of prehension or mastication. The only movements which the tongue can exercise with precision are those of suction: the infant, therefore, can only *suck*—it cannot *drink*. When, in addition to these facts, we mention the absence of teeth, and the rudimentary state of the salivary glands, we complete the proof that the infant, in the first epoch of its existence, cannot rightly accomplish prehension, mastication, or insalivation. We find a similarly rudimentary condition existing in the stomach and intestines: there is feebleness of the contractile membranes and incomplete evolution of the secretory organs.

"I agree with Chalvet in thinking that the first secretion of the mammæ, the *colostrum*, a compound of fatty and saccharine matters and mineral salts, is indispensable to the newly-born infant, not because it purges, but because it supplies a chyle furnished by the mother, because it is a plastic calorific aliment, because it cannot be replaced by any artificial preparation, and finally, because it is a natural emulsion which only requires for its absorption what may be called a sketchy digestion [*une ébauche de digestion*]. Chalvet, repeating the experiments of M. Guérin, performed to afford means of studying the influence of a premature alimentation upon young mammiferæ, produced in young dogs a series of morbid phenomena similar to those presented by the great majority of infants when they come home from bad nurses, viz., big bellies, swollen joints, and general emaciation."

In speaking of the necessity of conducting artificial lactation as much as possible in imitation of nature, the author enforces an immensely important rule, too often forgotten—that beef-tea, panada, and the preparations of milk-flour [*farines lactées*] must be vigorously interdicted. It is only by absolutely discarding them that infants can, without danger to life, be reared by sucking their food from the bottle. All the advertised farinaceous aliments, English and French, are destructive to infants till they have cut their first eight teeth. They often temporarily fatten, but they generally soon induce diarrhœa and emaciation; and by the irritation they excite in the intestinal track of the pneumogastric nerve are frequently the cause of convulsions and death. It is the duty of practitioners to impress these facts upon inexperienced mothers, who are naturally inclined to believe that if the infant became rapidly fat on commencing the flour diet, that diet must be suitable—believing, therefore, that it was a strange omission on the part of the Creator of the human race not to have provided farinaceous food in the breasts of women together with, or in place of, milk.

(*To be continued.*)

Part Third.

MEETINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING III.

Wednesday, 12*th Dec.* 1877.—Dr DAVID WILSON, *President, in the Chair.*

The following gentlemen have been elected Ordinary Fellows of the Society:—John Archibald, M.B.; David Hart, M.B.; John

B. Millar, M.B., C.M.; James Murphy, M.D.; Andrew Balfour, M.D.; David Menzies, M.B., C.M.

J. Matthews Duncan, M.D., has been unanimously elected an Honorary Fellow.

I. The *President* exhibited the HEART and LUNGS of a child, fourteen months old, to whom he had been called after death. The child was well nourished, but had always been rather livid, and its extremities cold. It had had repeated attacks of faintness, and in one of these it expired. The lungs seemed never to have been properly expanded, and the heart showed a distinct communication between the ventricles. The aorta appeared to arise from both ventricles, and there did not appear to be any pulmonary artery. It would be observed that there was a distinct communication between the ventricles.

II. *Dr James Young* read a paper on OCCLUSION OF THE VAGINA (which will appear in a future No. of this Journal).

Dr Underhill thought all the cases related by Dr Young were of interest. He could not agree with him, however, that perfect intromission was necessary to conception, and that therefore a tight hymen rendered pregnancy impossible. He related a case in which during delivery there was great laceration of the parts, which was afterwards cured by operation, leaving an opening so small as barely to admit a surgical probe, yet conception followed in this case.

Dr Croom mentioned a somewhat similar case in which the whole of the vagina was closed by cicatricial tissue, yet the patient became pregnant, the cicatricial tissue ultimately disappearing.

Dr Simpson agreed with Drs Croom and Underhill as to the possibility of impregnation with an almost imperforate vagina, or a condition which was even met with occasionally among the causes of delayed labour. Dr Young's cases of firm persistent hymen were most interesting. He (Dr Simpson) had had in his ward two or three years ago a very distressing case of imperforate hymen. A woman, thirty years of age, was turned out of doors by her husband on the night of her marriage, because he found he could not effect intromission, and fancied she was not like other women. The shock sent the poor woman into a condition of complete dementia. Probably there was some impotence on the part of the husband, because when a sound was passed through the minute aperture in the hymen, that structure was easily scratched through with the finger nail. The patient was afterwards restored to her senses and to her husband. Another case he mentioned in which a patient, aged 35, had been married some time, and yet the hymen was unruptured. He dilated the orifice with a series of rectal bougies, and the lady conceived immediately afterwards. He had seen a considerable number of cases where the vagina was occluded sometimes from various kinds of malformation, and sometimes from injury.

Dr Young briefly replied, thanking the Society for the reception given to his paper. He did not deny that pregnancy might occur, although intromission was very impartially performed, but in such cases pregnancy would happen accidentally.

III. *Dr Kirk Duncanson* communicated a case by the late Professor Gustav Simon, of Heidelberg, entitled, SUCCESSFUL OPERATION ON A VERY LARGE VESICO-VAGINAL FISTULA, occurring in a child eight years of age, which appears at p. 684 of the present No. of this Journal.

Professor Simpson thought the case quite unique and of extreme interest. He had neither seen nor heard of a similar one. He had met with a case of vesical calculus, which was making its way from the bladder into the vagina; the opening was enlarged and the calculus removed; the aperture was closed by means of metallic sutures. In another case, that of an old woman with prolapse of the anterior vaginal wall, concretions had formed in the bladder and were readily detected by the sound; the urethra was dilated, and a calculus the size of a walnut removed; a second calculus was then detected, twice the size of the former one; this being laid hold of with the forceps it was found impossible to extract per urethram; the urethra and anterior vesical wall were therefore incised, and removal effected. Incontinence of urine resulted; some weeks elapsed, and the patient returned, when it was decided to pare the edges of the fissure and stitch them together. The result was perfectly satisfactory. In this case, had he known in the first instance that two calculi were present, he would at once have cut through the bladder wall and extracted. On this occasion he had not used thread sutures, having had a series of very successful results from the use of metallic ones. Referring to the use of the catheter in such cases, he stated that he had sometimes dispensed with its use altogether.

IV. *Dr Matthews Duncan* communicated, through Dr Underhill, a paper entitled NOTE ON TWO CONTRASTED FORMS OF WEAK LABOUR, of which the following is an abstract:—

"The two forms of weak labour spoken of by Dr Duncan in this paper are frequently confounded with one another with injurious practical results; but they are essentially different, and require a correspondingly different treatment. The one form is common and well-known, the other has only been recognised of late years, and is not yet at all well known. The common form depends upon inertia of the uterus, and is most frequently seen in multiparæ who have had many children and are elderly. In this case, the uterus is not stimulated to sufficient activity, and the delay is due to inefficiency and infrequency of the pains. The stage of the afterbirth is apt to be attended with hæmorrhage. The rarer form is due to a quite different cause, and is, in many respects, a contrast to the former. It occurs chiefly in primiparæ, or in young women who have a special nervous mobility. Here the uterus is unduly but morbidly active. The tonic permanent contraction goes on with premature and injurious rapidity; the intermittent pains are frequent and painful, but inefficient. The body of the uterus, with its fundus higher in the abdomen than usual, is retracted over the body of the child, so that it forms only a comparatively small cap over the lower fœtal parts, and a distinct rim or sulcus can be felt a little below the umbilicus, where the contracted uterine body is attached to the greatly-expanded cervix. The condition of the uterus in this form is similar to what is found in labours where the advance of the child has been long obstructed, and it is attended with like danger, yet there is no apparent difficulty in propelling the child and no obstruction. The treatment of two forms of labour so distinct from one another is naturally different. In the former, where the delay is due to inertia, the uterus is to be stimulated by oxytocics—of which ergot is the best—and by kneading, rubbing, and similar means. In the latter, or premature uterine retraction, the uterus is not to be stimulated but soothed; opium and chloroform may be useful, but all oxytocics are to be avoided. Early delivery, if necessary with the forceps, is desirable. A case is given in which the second of these two forms was accurately observed."

Dr Croom thought the paper one of great interest. The second class of cases of inertia was newly described and practically of much importance.

Dr Underhill thought the interest of the paper lay in the second class of cases of inertia, as described by Dr Duncan. It would, he believed, stimulate us to investigate these cases in our practice.

Dr Simpson thought one of the chief points of the paper was the relation which the second class of cases bore to rupture of the uterus. In such cases, when the uterus goes on contracting over the child without expelling it, and merely producing an over-expansion of the cervix as described by Bandl, it was somewhat difficult to explain how this could occur in the absence of any obstruction. Perhaps there may have been resistance from rigidity of the os externum, which yielded only after the distension of the cervix and retraction of the body of the uterus had taken place. The subject was an interesting one for observation.

Dr Duncanson mentioned a case of the second class which he had met with in a primipara, aged 33.

After a few remarks from *Drs Craig* and *Rattray*, the discussion closed.

Part Fourth.

PERISCOPE.

M. Malassez's interesting observations on the proportion of corpuscles in the blood in different diseases have been noted in previous numbers of this Journal. Our readers should take them in connexion with the following memoir, which we translate from the *Comptes Rendus* of the Academy of Sciences of Paris (6th August 1877):—

"*On the Richness of the Red Globules in Hemoglobine.* By M. L. Malassez.—When I communicated to the Academy in 1872 the results of my first researches on the enumeration of the blood-corpuscles, I said that it is not sufficient to know the number of red globules, but that we must further be able to appreciate the quantity of hemoglobine contained in each globule.

"I have endeavoured to solve this problem.

"By the aid of a new colorimeter I estimate the quantity of hemoglobine contained in a millimeter cube of blood; then dividing this quantity by the number of globules which I find in the same volume of blood, I obtain the quantity of hemoglobine in each globule; mean quantity, of course, since the globules are not all exactly similar to each other. This quantity I term 'the richness of the blood in hemoglobine.' The following are, briefly stated, some of the results at which I have arrived. In healthy men, in prime of life, but resident in Paris (which is a slight cause of anæmia), I have found 27·7 to 31·9 $\mu\,\mu$ gr. of hemoglobine per globule. (The sign $\mu\,\mu$ gr. expresses the millionth of a millionth of a gramme, and is taken as unity of weight in order to avoid too great a number of ciphers). The differences which exist between different observations exceed to a small extent the range of error, so that there may be in reality individual differences in the richness of the globules in hemoglobine; these differences are in any case very inconsiderable.

"In the same individual there may exist considerable modifications in the number of globules; but in health the richness of the globules in hemoglobine does not appear to change, or at all events changes to a very small extent.

"Pathological conditions, on the contrary, are accompanied by considerable modifications. In the different forms of anæmia which I have examined, the richness of the globules in hemoglobine has always been inferior to the normal richness: it has varied between 10 and 25 $\mu\,\mu$ gr. This diminution existed even in cases in which the number of globules was normal. The exhibition of preparations of iron seems to have the effect of increasing both the number of globules and their richness in hemoglobine.

"In birds there are fewer globules than in mammifera; but the richness of their globules in hemoglobine is very superior. The increased proportion of hemoglobine more than compensates for the diminution in number; so that the blood of birds may contain, volume for volume, more hemoglobine than that of mammals.

"In fishes, reptiles, and batrachians, there is also a diminution in the number of globules and an increase in the richness in hemoglobine in these elements; but, in them, the increase in hemoglobine does not compensate for the diminution in numbers; so that the blood of these animals contains, volume for volume, much less hemoglobine than that of mammals and birds. The disproportion is least in reptiles and greatest in cartilaginous fishes. This general statement is exact only when we look at the facts taken as a whole; in detail we meet with exceptions: species of a higher class are found with a less proportion of hemoglobine than species belonging to an inferior class. There exists, indeed, very notable differences between the species of a same class. One of the most remarkable is that found between osseous and cartilaginous fishes.

"To what are these remarkable variations in the richness of the globules in hemoglobine due? Do they result from simple modifications in the volume of the globules, the composition of the globule-substance remaining constant; or are these modifications in the quantity of hemoglobine diffused through this substance?

"This new problem may be solved by dividing the richness of the globules in hemoglobine by the volume of the globules, which gives the quantity of hemoglobine contained in each unity of volume of the globule-substance.

"It is thus that we find that the variations in volume explain the variations in richness in hemoglobine in a certain number of cases—between allied species for example; whilst in many other cases, between species removed from each other, the presence of a nucleus must be allowed for, and also modifications admitted in the composition of the globular substance. In chlorotic patients the globular substance is so altered, so poor in hemoglobine, that the globules have less hemoglobine than normal globules, although they are very much more voluminous than the latter; in the proteus the globular substance would, according to my calculations, only contain 0·115 $\mu\,\mu$ gr. hemoglobine in the thousandth part of a millimeter cube, whilst it would have 0·345 in lizards and frogs, 0·416 in man and the pigeon."

A CASE OF ARSENICAL POISONING TREATED WITH DIALYZED IRON. By THOMAS B. REED, M.D.—A case of arsenical poisoning occurred lately in my private practice, which seems to be valuable enough for publication, both on account of the completeness of the details and the intelligence and reliability of the patient, but especially as it is, so far as I am aware, the first case where the new remedy of "dialyzed iron" has been put to the test as an antidote.

As I was leaving my office one morning, a few weeks ago, a young lady patient, Miss S., hastily entered, with a face indicative of intense pain and nervous disturbance, saying, "Doctor, I am poisoned." Her story was as follows. While attending to the wants of a valuable servant who was sick and confined to her bed, Miss S. found hidden away in the servant's trunk a paper of arsenious acid, which had been procured by Mrs S. some weeks before for use as a poison for rats. As this servant had been in ill health for some time, and morbid and melancholy, Miss S. at once very naturally, and no doubt very rightly, supposed that she had secreted the poison for the purpose of taking her own life. Quietly placing the packet of arsenic (which was open) in her pocket, she continued her duties, intending at the earliest moment to put it in a safe place. Days elapsed, the arsenic was forgotten, stored away in the pocket of her wrapper, until this unlucky morning, when, putting a couple of handfuls of gum-drops and bon-bons into her *arsenic pocket*, she sat down to her sewing-machine and her confectionery. She noticed from time to time, as she sewed, more powder upon the drops than seemed usual, but she continued quietly to dust them off as she ate, and went on with her work. *Can anything be more absurdly tragic than this unconscious suicide, deliberately eating gum-drops powdered with arsenic?* Probably an hour and a half passed in this innocent amusement, when suddenly "becoming deathly sick, instantly followed by intense pain," as if, as she quaintly expressed it, "she had had a pure mustard-plaster on the inside of her stomach," she was roused to the consciousness that some strange mischief was at work. Terrified on remembering the arsenic, she attempted, unsuccessfully, to relieve her stomach with warm water; then, unwilling to alarm her mother, who was also an invalid, she hastily threw on her street dress and hat and hurried to my office, about two blocks away Fortunately for both of us, I had upon my table a sample bottle of dialyzed iron (John Wyeth & Bro.), and as soon as she told me she had taken arsenic, and before she began her story, I administered a half tablespoonful of the iron well diluted in a tumbler of water. This gave her almost instant relief. I repeated the dose in ten minutes, and then gave her a bottle of the iron, directing her to take a similar dose every half-hour, and, later, every hour during the day. I saw her at her home in a few hours after, but she had had no return of her pain, except some slight cramp in the lower bowel and limbs; and a dose of magnesia at night, with mucilaginous drinks, soft food, with occasional doses of the iron well diluted, kept up for a few days, completed her cure. At my request, the day after her attack, Miss S. put into my hands the pocket cut from the wrapper, which she could not be persuaded to touch after her poisoning. This I transferred to a reliable analytical chemist, from whose report of his examination, now in my possession, I condense the following:—"In the pocket of a chintz dress I found a small packet labelled Arsenic—Poison—and in this packet a second envelope, open on its long and upper side, containing a white powder. Both outer and inner envelopes were worn as letters carried in pockets are. Between the outer and inner envelopes was a white powder, and in the pocket itself, mixed with the powder, I found two (2) sugar-crystallized, soft gum-drops, and one (1) sugar-coated bon-bon, all three (3) richly covered with the powder. The powder, which with a brush I took away from the gum-drops, and the dragée, weighed $3\frac{1}{2}$ grains, and the remaining powder, after separating the gum and sugar, weighed $2\frac{1}{16}$ grains. In the pocket I found also $6\frac{5}{8}$ grains of the white powder. The powder obtained from the gum-drops and dragée gave all the tests arsenious acid gives."

What amount of arsenious acid my patient swallowed it is, of course, impossible to say. It is certain that from this open package of arsenic a considerable quantity escaped into the pocket, and the gum-drops were mixed with it, as she states "that she had to dust the powder off upon her work as she ate," and the three remaining after show $2\frac{1}{16}$ grains of arsenious acid upon them on examination by the chemist. I have perhaps been unnecessarily full in the details of this case, but I think they have established several facts. 1st, That my patient did swallow, in the space of an hour or more, *numerous poisonous doses* of arsenious acid in powder; 2d, That I found her with most marked symptoms of arsenical poisoning; and, 3d, That by the administration of moderate doses of dialyzed iron, well diluted, I was enabled to give her immediate and certain relief, and ultimate and entire restoration to health. I do not propose in the limits of this paper to discuss the exact chemistry of the dialyzed iron. It is, I believe (when properly prepared, as I have since investigated carefully the process of its formation), a solution of peroxide of iron in the colloid form, with perhaps a trace of hydrochloric acid; but that it will, when very largely diluted with water, perfectly coagulate arsenious acid *in solution*, any one can satisfy himself in a five minutes' test. The only remaining point of interest professionally is, will it neutralize arsenious acid when taken *in powder* (*bulk*) into the stomach? It is held by most authorities, I believe, that when arsenious acid is taken in bulk into the stomach, the iron antidote is not reliable. (See Dunglison, R. J. latest paper on the subject, in his *Practitioner's Reference Book*, page 229.) Yet we know from daily experience that arsenious acid is absorbed by the stomach when taken in minute doses, and I think the evidence in this case shows that arsenic in powder did poison when presented to and acted upon by a comparatively empty stomach (at least three hours having elapsed since her breakfast), and that the solution of peroxide of iron (dialyzed iron) did prove a prompt and reliable antidote, coagulating and neutralizing the arsenic. Arsenious acid *acts as it is dissolved*, and the antidote (if supplied) combines, *pari passu*, with the solution formed by the liquids of the stomach, and renders it inert before damage is done to the mucous coat of the stomach or it is absorbed into the system. Within twenty seconds after I learned that arsenic had been swallowed I sent a full dose of the antidote after the poison, and with positive and immediate relief to the patient. My experience with dialyzed iron as a pleasant and efficient means of introducing iron into the economy is too limited for an opinion, but I feel disposed, from the history of this case, to strongly recommend it as a safe, reliable, and always-ready-at-a-moment's-notice remedy and antidote for arsenical poisoning.—*Philadelphia Medical Times.*

Mo (*Centralb. f. Chir.*, No. 24, 1877) recently examined the body of a man, aged 52 years, in whom the right kidney, with the corresponding renal artery and ureter, were altogether absent. The left kidney was of the natural shape, and normally situated, but greatly enlarged.

HOBON (*Centralb. f. Chir.*, No 26, 1877) met with a case of acute prostatitis, which rendered repeated attempts at catheterism fruitless, and of course caused complete retention of urine. After waiting three days, the bladder was punctured, and on the following day repunctured and a canula inserted as a drain. Six weeks later, a catheter was introduced and overcame a slight obstacle, when a large quantity of pus escaped from a prostatic abscess, and the patient rapidly recovered.

DR MENZEL OF TRIESTE (*Centralb. f. Chir.*, No. 27, 1877) advocates the use of metal sutures in Lister's dressing. While he does not afford us any additional information on this subject, he endeavours to preserve from desuetude an article which has already rendered good service, and by claiming for it, that it irritates less than carbolized catgut, and cuts the tissues less than either this or silk sutures, he endeavours to rescue it from the onslaught of that rapacious innovator, "Lister's method," which threatens, like an energetic despot, to banish many of the highly respectable old servants of the *ancien régime.*

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

[The author of these Reports will be glad to receive any books, pamphlets, or papers relating to Materia Medica or Therapeutics. They may be forwarded through the agencies of the *Edinburgh Medical Journal.*]

IODOFORM IN THE TREATMENT OF EPIDIDYMITIS.—Dr Alvares of Palma (Majorca) has treated four cases of epididymitis with iodoform ointment, and from his experience draws the following conclusions:—1. Iodoform calms the pain of blennorrhagic orchitis better than any other application; this result is obtained at the end of one or two hours. 2. Iodoform exerts a very manifest resolvent action, and has the advantage over the usually employed mercurial ointment of causing no trouble when absorbed. 3. The iodoform treatment shortens very appreciably the duration of the orchitis, and prevents any consecutive induration of the organ. 4. It is necessary to employ an ointment containing, according to the intensity of the inflammation, from one to two grammes of iodoform to thirty grammes of lard.—*New York Medical Record*, 13th Oct. 1877, quoted in *British Medical Journal*, 5th Jan. 1878.

Continuous Currents in the Treatment of Ulcers, and particularly Atonic Ulcers.—The following cases are published by M. Staes-Brame in the *Bulletin Médical du Nord*. The first is that of a man aged 30. He had suffered for two years from large atonic ulcers on the legs. M. Staes-Brame had entirely cured one of the ulcers and greatly ameliorated the other by prolonged rest, compression, and tonics. That of the right leg, which formerly measured four inches by three-quarters of an inch, was reduced to a small wound less than two-fifths of an inch in diameter covered by a cicatricial pellicle, when by some unknown cause, in twenty-four hours, the whole of the former surface of the ulcer became denuded and discharged bloody serum. M. Staes-Brame determined to apply the constant current. He covered the wound with a plaque of metal, which he put into communication with the negative electrode, the positive pole being applied to the skin of the thigh. In ten minutes the wound became pale; the next day it had diminished by one-half; reapplication of the current for ten minutes, and the following day the cure was complete. The subject of the second observation was a workman who had been burnt on the foot by a quantity of concentrated sulphuric acid. The eschar left a deep ulcer, which defied treatment. M. Staes-Brame tried the continuous current in the same manner as before. After eleven applications of ten minutes each, the wound had completely cicatrized.—*British Medical Journal*, 5th January 1878.

Treatment of Chronic Dysentery by the local Application of Nitric Acid.—Dr Hurt, at a meeting of the St Louis Medical Society, reported the case of a man who had been suffering for five months from chronic dysentery, and had become greatly reduced in strength. The abdomen was full and tender, treatment was commenced with dry cupping and an emulsion of castor-oil, turpentine, and laudanum. Tonics and astringents were afterwards administered, as iron, quinine, tannin, bismuth, and opium, variously combined, and in doses increased or lessened according to indication. As the disease persisted, other remedies, such as acetate of lead, camphor, ipecacuanha, and the sulphates of zinc and copper, variously combined with opium, were tried. The diet consisted of beef-tea, milk, soft eggs, rice, potatoes, and tapioca. This treatment was continued for four months without appreciable benefit. At length it was determined to make an examination of the rectum, and it was found to be almost completely denuded of its epithelium as far as the surface could be seen. After cleansing the bowel with pledgets of cotton, a sponge lightly moistened with strong nitric acid was brushed over the surface. Steady improvement followed the application, and in the course of a month he was convalescent.—*St Louis Med. and Surgical Journal*, vol. xiii. No. 10. Quoted in *Practitioner*, January 1878.

GELSEMIUM SEMPERVIRENS IN NEURALGIA.—The action of this drug in affections of a neuralgic character has recently been studied by Dr Emery-Heroguelle, who made it the subject of his inaugural thesis. A summary of his observations appeared in a recent number of the *Paris Médical*. Taken in a large dose gelsemium produces frontal headache, stunning, visual troubles, diplopia, contraction of the pupil, and dropping of the upper eyelid. There is also weakness of the legs. The author reports six cases of intoxication from this drug, taken in mistake. Gelsemium is administered in powder or in pills in the dose of three-fourths of a grain to three grains of the powder of the roots. It may also be given in the form of tincture, made with 100 parts of alcohol at 60° to 5 parts of the powdered root. The dose is from 40 to 80 drops. A syrup may be also made by adding 50 parts of the tincture to 1000 of simple syrup. M. Dujardin-Beaumetz has also had prepared an aqueous extract and an alcoholic extract. M. Emery-Heroguelle reports thirty-one observations collected in the service of M. Dujardin-Beaumetz and from foreign journals, all of which refer to the action of the drug on neuralgia. From an analysis of the results, it appears that gelsemium may be especially looked upon as an anti-neuralgic; that it acts favourably in cases of dental neuralgia of the fifth pair, of the frontal, temporal, supra-, and infraorbital nerves, the brachial plexus, the intercostal and ilio-lumbar nerves. Sciatic neuralgia appears to resist rather more than other neuralgias the calming effects of this tincture. Dr Ortille, of Lille, however, succeeded in curing with this remedy a patient who had suffered for a long time from a sciatica which resisted all sorts of therapeutic means. The author considers gelsemium to be a powerful sedative in neuralgia, especially in those varieties which are not accompanied by that local fluxion in the affected point. Favourable results have also been seen in hemicrania.—*Medical Examiner*, 27th December 1877.

JABORANDI IN THE ALBUMINURIA OF PREGNANCY.—M. Langlet of Rheims, in the *Union Médicale et Scientifique du Nord-Est*, No. 6, reports the case of a woman, in the third month of pregnancy, who for six weeks had suffered from œdema of the legs, great oppression, cephalalgia, vomiting, etc. The urine was very scanty and loaded with albumen, and was uninfluenced by the usual diuretics. From the first day after the administration of jaborandi, there were salivation, very little perspiration, but as a counter-balance, an increase in the quantity of urine voided, which continued for some subsequent days. The patient took jaborandi for sixteen days, and during that time the œdema was reabsorbed, the albumen decreased, the general symptoms improved, and there was eventually a favourable delivery, with a healthy child.—*British Medical Journal*, 15th December 1877.

BROMIDE OF ZINC IN THE TREATMENT OF EPILEPSY.—Experiments have been going on for some time in M. Charcot's wards at the Salpêtrière Hospital with bromide of zinc as a remedy for epilepsy. It can be administered either in the form of pills or as a syrup. The pills contain each three-quarters of a grain of bromide of zinc. Commencing with one pill daily, the dose may be increased to twenty-five grains, increasing the quantity of bromide contained in each pill. The drug can be given in syrup according to the following formula:—Bromide of zinc, 15 grammes; syrup of bitter orange-peel, 150 grammes; four, five, or six teaspoonfuls to be taken in the course of the day. The results obtained from the administration of these pills have been satisfactory.—*British Medical Journal*, 24th November 1877.

SULPHATE OF ATROPIN IN PATHOLOGICAL SWEATS.—At the meeting of the Paris Academy of Medicine on 6th November, M. Vulpian called attention to the want of efficacy in all the means hitherto employed to combat pathological sweats, more especially those from which phthisical patients suffer. He has found that sulphate of atropine, given in pills containing half a milligramme (three four-hundredths of a grain), is a sure preventive of these nocturnal sweats. It generally suffices to administer one or two of these pills, but in certain cases the dose must be increased to four pills. The cases on which M. Vulpian founded his thesis all occurred in his own wards, and he believes he is the first to have introduced this plan into France.—*British Medical Journal*, 24th November 1877.

Part Fifth.

MEDICAL NEWS.

OBITUARY.

WILLIAM STOKES, M.D., F.R.S.—Since our last number was published, and on the 7th of January 1878, Ireland, and we may say, without fear of contradiction, the British Empire, has lost the greatest physician who could be named since the days of Graves, and Bright, and Latham. He was an Edinburgh graduate of 1825, and seems, during his student career, to have drawn inspiration to a considerable extent from our own William P. Alison, so distinguished for his intellectual attainments, his philanthropy, his modesty, and gentlemanly bearing. To do any justice to Dr Stokes in a notice such as our present space permits, would be impossible. We may remind our readers, however, that his work on *Diagnosis and Treatment of Diseases of the Chest* was published in 1837, when he was barely thirty-three years of age; that he contributed many very valuable communications to the *Dublin Journal*, to the *Cyclopædia of Practical Medicine*, the *Dublin Hospital Reports*, and other esteemed periodicals; that in 1855, he published his classical treatise on *Diseases of the Heart and Aorta*, and so late as 1874, at a period of life when most men are resting on their oars, a volume of *Lectures on Fever*. As a hospital physician and clinical teacher, he was pre-eminent, setting an example to all—colleagues, practitioners, and students alike—of painstaking accuracy and faithfulness. He was remarkable for grace of manner, courtesy, earnestness and felicity of language. He was a man of taste and literary attainments; and as one who seems to have known and admired him testifies, "his social qualities were of the most genial and agreeable nature; his benevolence was unbounded, and his kindliness of heart and disposition endeared him to all with whom he came in contact." A stroke of apoplexy in November 1877 left him hemiplegic, without impairing his intellect, which retained its wonted clearness almost to the end.

DOCTORS' FEES.

After a somewhat feeble series of letters on this subject, the *Times*, with its usual marvellous power of crystallizing the common sense of the country, has nearly settled the question in the following admirable article:—

A very pretty little quarrel as it stands has arisen between a certain section of the public and the medical profession. "An Overwrought Patient" sought the medium of our columns to convey to his doctor the delicate hint that he would like to know the items of the medical attendance for which he had been charged. Forthwith we are flooded with letters on the subject. Overwrought patients seem to be very numerous, and medical men who stand on their dignity rather too stiffly are evidently not scarce. The controversy, after all, is not a very serious one, and we confess that our sympathy is rather with the medical men than with their assailants. Among those who dislike the practice complained of there are few who do not betray something of a feeling that it has been adopted by medical men as a convenient means of increasing their charges unawares. We believe this feeling to be based on a pure misconception, and in any case it is not a very generous one to entertain. Medical men generally withhold items in sending in their account, because in many cases, as some of those who undertake their defence have said, the items would be neither intelligible nor edifying. All visits cannot be charged for at the same rate, whatever their purpose or duration, and therefore to furnish items would generally lead to confusion, and very often to unnecessary dispute. There is certainly a good deal of force in the reply of a medical man quoted by one of our correspondents, that it was rather inconsistent in the patient to trust the lives of a whole family in his hands, and then to show mistrust on a mere question of money. As it happened, the doctor in this case seems to have made a mistake, and to have charged to one patient services rendered to another. Such mistakes, of course, are very annoying, but they obviously must be rare, and even when they occur the medical man is the chief sufferer in the loss of credit and practice. We certainly cannot see why a medical man should refuse to render an account of items should his patient request it, nor do we believe that such a request would in general be resented, but we doubt if most people would be either pleased or edified by having the doctor's bill rendered in detail.

The truth is that it is very unpleasant to most people to have to pay money, and we are not surprised that the natural impatience engendered by Christmas bills should find an outlet in this attack on medical men. We are grateful enough to doctors when we are really ill, but our gratitude is apt to evaporate when we are called on to pay for their attendance. There are many reasous why paying a doctor's bill, however grateful we may and ought to be for the services rendered, is one of the least satisfactory modes of getting rid of money. The doctor is only called in when something has happened which every one would be glad to avoid if he could. If a man buys a horse, or a picture, or a piece of furniture, he receives value for his money, or thinks he does; he has something to show for it, and the presumption is that he both wants what he buys and can pay for it. But, though he may want a doctor's services badly enough, it cannot be a satisfaction to him to do so; and though the doctor may be a good fellow enough, as one of our correspondents puts it, yet the patient would rather not see his carriage at the door, save as a friendly visitor. All the doctor can do when he does come is to restore him something he would gladly not have lost, and it is but human nature to wish that his services, skilful and patient as they may have been, had never been needed. Thus, though the doctor is a much-needed and generally a hard-worked servant of the public, we cannot be surprised if many people regard him as their natural enemy. Besides, it is not long since he went some way to justify this view. We all know what doctors were in the time of Molière, and though the dramatist no doubt exaggerated the types he caricatured, yet the picture would have been condemned as wanting in resemblance if doctors in those days had not been frequently enough the stupid and conceited pedants he represented them. Even in latter days among ourselves medical practice was not always so skilful as it is now. When the doctor came armed with the lancet, the black draught, and the blue pill, no doubt his coming was regarded with dismay by his unfortunate patients. Besides, though the first syllogism we learn in our logic books tells us that all men are mortal, we do not like to be reminded of it by the too frequent association of the undertaker with the doctor. The latter may fairly say that not he, but nature, draws the conclusion; but we all know that mankind are not governed too strictly by logic in such matters, and perhaps we may retort that this is not the only conclusion for which the doctor might acknowledge that nature does more than himself. We may be ready enough to acknowledge and profit by medical skill, but so long as men are permitted to ridicule their own and their neighbours' foibles they will always pretend to believe that doctors sometimes kill as well as cure. "I can't kill your pheasants!" said a distinguished physician to Sydney Smith after a day's shooting on the witty rector's glebe. "Try prescribing for them, then," was the reply. These are the feelings, half serious, half jocular, which tend to make people a little impatient with their doctors, and more so with their bills. But the bills must be paid, and we will not do the medical profession the injustice of supposing that the furnishing of items would, save in very exceptional cases, as a rule far more annoying to the doctors themselves than to any one else, result in any reduction of the amount charged. Most people would prefer, we should think, simply to know that they owe their medical man a certain sum, and to pay the bill without asking any further questions, rather than to be furnished annually with a retrospective diary of their ailments, a mournful and humiliating chronicle of many of their misfortunes and most of their follies. "Item, 26th December, to prescribing for a bilious attack," or "Item, 1st April, to vaccinating a baby:" these are the things which every Christmas would stare us in the face in ghastly array. We should be lucky indeed if we escaped with nothing worse, but it is difficult to see how in any case we should be better satisfied than by simply knowing the amount, which, if our doctor be an honourable man as well as a good fellow, we should have to pay, of whatever items it was composed.

It is certainly difficult to treat this little squabble seriously. But we would point out to "An Overwrought Patient," that he was not only wrong in speaking of being "fleeced" by his doctor—an offence for which he has since made amends—but that he appeals to a totally false analogy when he compares a doctor's bill with a tailor's or with that of any other tradesman. Business is business, no doubt, as we have been reminded by more than one correspondent, and the relation between a man and his tailor is strictly one of business, and may fairly be treated accordingly. But the relation between a medical man and his patient is essentially and necessarily one of confidence, and should be one of mutual confidence, sufficient in most cases to obviate anything like a pecuniary dispute. No medical man ought to hesitate to furnish items if a patient requires them, and in most cases the doing so would at once compose any possible misunderstanding. If a patient thinks he has been overcharged, he at least needs to be guaranteed against a possible blunder of book-keeping, and if he finds there has been no mistake he has the remedy in his own hands. He would plead, therefore, for as much consideration for doctors as is consistent with due regard for self-interest. They are the servants of the public, and very frequently its slaves. We have little forbearance when we are ill, and we are very indignant if an overwrought doctor does not come to see us at the very moment when we think we need him. If we go to see him, we make a point of choosing his meal-times as those at which we are almost sure to find him at home. If he is weary and exhausted, he must still be patient and forbearing towards all who need his services, and he has to bear over and over again all the exactions and caprices of a fractious invalid. Day and night his time is at our service; and even if another patient needs him more than we do ourselves, we are indignant if he does not immediately and good-humouredly respond to our summons. The lawyer quits his court and throws aside his troubles with his wig and gown. If his work overwhelms him, he can decline to increase it. The merchant leaves his counting-house and spends his evenings in peace. The doctor can call no time his own, not even his hours of rest, for his summons is one to which, however weariness or indolence may counsel deafness, duty and humanity compel him to respond. Is it generous to say of such a man that in sending in his accounts as he does he is actuated by overreaching greed? It is notorious, and the fact does infinite credit to medical men, that in no other profession is so much gratuitous work unostentatiously done. No medical man makes any charge for attendance on his brethren or their families, and if the poorer clergy and gentry, not to mention the labouring classes, could tell us their experience, we should hear more of grateful, and less of overwrought, patients. How many medical men throughout the country have lately sent in such an account as that recorded by "A Poor Vicar" in our columns of Saturday? Surely we need not accuse men who can do such things of withholding items that they may be able to charge the more. We will not deny that the medical profession probably contains as many black sheep as other professions chosen in the main by honourable men. But this is certainly true, that if any one has the misfortune to think himself overcharged by his doctor, he will hardly mend matters by squabbling over the bill. He will only irritate, and justly irritate, an honourable man, while he will get no very adequate redress out of a knave.—*Times,* 14th January 1878.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Valedictory Address to the Medico-Chirurgical Society of Edinburgh, on retiring from the Presidency.* By JAMES D. GILLESPIE, M.D., F.R.C.S., Consulting, late Senior, Surgeon to the Royal Infirmary, Surgeon to Donaldson's Hospital, Gillespie's Hospital, and Fettes College, etc.

GENTLEMEN,—On retiring from the Chair, which I have occupied for the last two years, I beg to thank you most sincerely for the high honour you conferred on me, when you elected me your President, and for the uniform courtesy and support you have accorded me in attempting to discharge the onerous duties of the office.

It was with much misgiving that I accepted this truly honourable position, but the assistance I got from your other office-bearers, and your own generous conduct, have made me feel quite at home, and at the same time have caused me deep regret as the hour has arrived for resigning to a much more competent occupant the Presidential Chair.

It has long been the custom for the retiring President to give a sort of *résumé* of the work done during his reign, and I am thoroughly satisfied, that, when I have recounted to you as succinctly as possible some of the business brought under your notice, you will agree with me your time has not been misspent; and that, by these friendly meetings, not only has much valuable knowledge been imparted to the profession, but a closer bond of right-minded fellowship has been knit and drawn around the numerous members of this learned Society.

The exhibition of pathological specimens, and papers on various theoretical and practical subjects, have usually been the business brought under your notice, but of late years a third useful element has been added. You must all know the popular proverb, "seeing is believing," and the evidence afforded the senses by bringing here living illustrations of the treatment of disease is a happy addition to the usefulness of our meetings.

On Solomon's principle, that "a living dog is better than a dead lion," I think the first honours should be accorded to the patients we have examined here, and I now take the opportunity of thanking those gentlemen, who brought them, sometimes from a distance, for the inspection of the Society.

I may first mention the case of Aneurism, involving the aorta, innominate, and first part of the subclavian, a patient in Professor Spence's ward, but brought here by Dr John Duncan. Half-drachm doses of the iodide of potassium given four times a day had effected a cure, consolidation and absence of all pulsation having ensued. To have witnessed such a result would have gladdened the heart of a Scarpa! though it might have bothered a Hunter, a Brasdor, or a Wardrop!

Mr Annandale and Mr Joseph Bell both showed patients on whom the radical cure for hernia had been performed; the case of the former being an illustration of Femoral Hernia—a rare lesion in the male. When exhibited four months after the operation, he did not require to wear a truss. Mr Bell's case had suffered from strangulated inguinal hernia. During the operation for reduction the neck of the sac was ligatured with the view of accomplishing a radical cure.

Mr Annandale also exhibited, only a week after the operation, (1), a patient whose entire tongue had been removed by the thermal cautery; (2) a patient whose arm had been amputated for complete motor paralysis of the whole arm, caused by the manipulations of a bone-setter, who had dislocated the elbow; (3) a girl, whose knee-joint had been excised by him five years previously. The peculiarity of the case consisted in the joint being movable, and yet the patient could walk well. The mobility was accidental; only one other case of the kind had been recorded. (4.) A case, which he said illustrated the value of antiseptic surgery. The patient had an anchylosed elbow, caused by injury, and a long cicatrix in the front of the forearm. He first excised the joint, but finding extreme flexion of the wrist still existed, he dissected out the cicatrix, and extended the fingers by a weight, perfect use of the elbow-joint and a useful hand resulting. (5.) A young woman with excision of the joint between the astragalus and os calcis. There was now almost perfect movement of the joint.

Mr Joseph Bell had also brought to the Society—(1.) A little girl, who had fallen from a height of forty feet on a spiked railing. One of the spikes had entered the popliteal space, and split the bone. The wound was dressed antiseptically and healed, having a movable joint. Ten years ago he would have amputated.

(2.) A lad, into whose axilla a large piece of paling, nine inches long by three broad, had been driven by a fall from a swing at the Gymnasium. He attributed the wonderfully favourable result to careful drainage. Some of you must have witnessed the very formidable-looking piece of wood that had so marvellously failed to do much damage.

(3.) A patient who had sustained a severe gunshot injury of the hand; and (4) and (5), two cases of compound fracture of the skull.

Dr Argyll Robertson and Dr Byrom Bramwell both exhibited interesting cases of the disease entitled miner's nystagmus.

Mr Chiene showed—(1.) A boy operated on for knock-knee, the operation consisting in excision by means of a chisel and mallet of a triangular piece of bone from the internal condyle of the femur, the joint remaining uninjured.

(2.) A boy who had suffered from a pharyngeal abscess arising from disease of the cervical vertebræ. He had cut down upon this from the outside and treated it antiseptically, which he could not have done had he opened it from the mouth.

Besides these living mementos of professional skill, we had numerous pathological specimens and improved inventions from the following gentlemen: Professor Spence, Dr George Balfour, Professor Simpson, Dr Watson, Professor Annandale, Dr Argyll Robertson, Dr Tuke, Mr Joseph Bell, Dr Wyllie, Dr Carmichael, Dr W. A. Finlay, Mr Chiene, Dr Foulis, Dr Craig, and Dr Roberts, and most probably others, whose names have escaped my notice.

While on this subject, however, I should like to draw the attention of my successor in office to the present practice of permitting no discussion to take place on cases or specimens exhibited. It appears to me that, as our transactions are regularly published in the *Medical Journal*, the tacit approval of the Society would seem to be accorded to opinions uttered by the exhibitors, which I for one would occasionally like to call in question. While revising the records of the last two years, I found various statements about cases which would have been much benefited by passing through the ordeal of discussion, and I see no reason why the members of this Society should not be permitted to make remarks on subjects, often of more practical interest than the regular written papers, provided the President keeps the discussion within due limits.

Besides, it occasionally happens, as for instance in the case of Dr Byrom Bramwell, who repeatedly brought us interesting pathological specimens all the way from Newcastle, that friends in the country bring or send for our inspection cases or preparations of interest, and it seems a very poor return to them for their trouble to receive them in solemn silence.

The communications to the Society during my period of office may be divided into—1, Medical; 2, Surgical; and 3, Obstetrical, though it may be difficult to classify very correctly some of the papers under any of these heads.

I. *Medical.*—Beginning in the order in which they were read, I may commence with Dr Littlejohn's appeal to the profession for the compulsory intimation of certain infectious diseases. This brought out, however, a strong expression of opinion among

Members that the confidential relations between medical advisers and their patients should not be interfered with. At a time when such a clause is proposed for enactment in the New Police Bill the discussion is interesting.

Dr Church read a carefully-observed case of Pneumothorax.

Dr Angus Macdonald communicated a paper by Dr Turner of Keith on Passive Cerebral Hæmorrhage. His views may be summed up in the following sentence:—"The symptoms then common to hyperæmia and anæmia have, I submit, a common factor—pressure, although in the one state it is direct, active pressure, and in the other indirect, passive pressure; and the only condition essential to its existence in the latter is arrested vascular action, with consequent stasis of the blood within the cranium."

Dr Grainger Stewart read a paper on Cases of Paraplegia. These cases illustrated various forms of the disease, and, being treated according to the indications, had favourable terminations. One of the best discussions of the Session was accorded to this paper.

Dr James Ritchie gave us a Note on the Treatment of Pityriasis Versicolor by equal parts of acetic acid and glycerine, which was found to destroy the parasite most effectually.

Dr Hunter of Linlithgow read a valuable paper, being an account of an Epidemic of Typhoid Fever at Linlithgow Bridge, with special reference to its treatment by antipyretics. He gave full, frequent doses of quinine and salicylate of soda. Out of 68 cases 10 per cent. died. This gave rise to a very animated discussion, Professor Gairdner of Glasgow taking part in it, and giving us his experience of the antipyretic treatment; while Dr George Balfour alluded to the antiseptic method, which he had followed for many years, giving sulphurous acid internally. When commenced early enough, a rise in temperature above 103° was almost unknown.

Dr Jamieson read a paper on the Employment of the Oil of Turpentine in Sciatica. He thought it useful at the age of tissue degeneration.

Dr Angus Macdonald read an Account of Three Cases of Pneumothorax, occurring as an early symptom of pulmonary disease. This was a most painstaking, carefully-noted history of the progress of the disease; but the late hour at which it was read prevented the Society from entering fully upon its merits.

Dr Craig gave us a useful dissertation on the Therapeutics of Aloin.

Dr Turnbull of Coldstream, introduced to the Society by the President, contributed a curious case in which symptoms of Colica Pictonum had been induced by the accidental swallowing of a lead bullet. It seemed, however, to be the general opinion of the Society that the most severe of the symptoms noted were due rather to the presence of the bullet than to lead-poisoning. It was most unfortunate that no *post-mortem* examination was permitted.

Dr Paton, introduced to the Society by Dr Murray, endeavoured in a well-argued paper to persuade Members to depart from the usually-accepted explanation of the Sounds of the Heart, his theory being that the first sound depended on contraction of the ventricles and closure of the sigmoid valves, while the second sound resulted from contraction of the auricles. This interpretation of the sounds of the heart did not meet with acceptation by the Society.

Dr Batty Tuke read a most valuable paper on the Diagnosis of General Paralysis of the Insane. Its general purport was to show that alcoholism may induce very similar symptoms, which may lead to a mistake in diagnosis and prognosis.

Dr James brought under our notice a pathological article on Hydronephrosis, in which he tried to show by ingenious and well-argued reasoning that increased micturition caused in time dilatation of the ureters and renal pelvis, and therefore more or less hydronephrosis.

Mr J. D. Hamilton, in a paper which bore evidence of much original observation and of thorough acquaintance with the extensive literature of the subject, gave us a clearly-expressed description of the pathological differences existing between True Tubercle and Catarrhal Pneumonia.

Dr Young read a Case of Coal-Gas Poisoning occurring in the practice of Dr Macbain of North Berwick. This closes the medical papers.

II. *Surgical.*—The surgical contributions were still more numerous, and I must condense my account of them as much as possible.

Dr Argyll Robertson exhibited a new Trephine for the Sclerotic in Glaucoma, and narrated four cases in which it had been employed with advantage for the relief of intra-ocular tension.

Dr Cadell recounted a Case of Lymphatic Inflammation simulating Venereal Disease; while Mr Joseph Bell gave us a short notice of Paraffin Epithelioma of the Scrotum.

Mr Annandale read a note of a large reducible Inguinal and Femoral Hernia treated by operation. It consisted in ligaturing the necks of an oblique and direct hernia, and pushing the sacs into the femoral canal, where they were fixed. Four months thereafter the inguinal protrusion was cured, while there was a slight protrusion in the femoral region.

It would be of still more practical value if Professor Annandale would shortly produce the man for inspection.

Mr Chiene suggested to the Society the drainage of wounds by threads of catgut. The advantages claimed were that they acted as a drain for some days and were then absorbed, while they were not so irritating as indiarubber tubes.

Mr Annandale read his paper on Excision of the Joint between the Astragalus and Os Calcis. It showed that in properly-selected cases the foot might not only be saved, but a very useful result might be obtained.

Mr Joseph Bell narrated a case of Section of the Femur for deformed union, after repeated attempts at refracture had failed.

Mr Annandale read a note of Esmarch's Operation for Curing a Permanent Closure of the Jaws, caused by contracted cicatrix. It consisted in cutting out nearly an inch of the entire jaw on one side, and making a false joint. This allowed the other side of the jaw to move pretty freely. He also related a case in which a knitting-needle had penetrated the brain through the orbit. The patient recovered with loss of sight of the left eye. And, subsequently, he gave us the result of his extensive experience in the treatment of internal hæmorrhoids. After weighing the arguments for different methods of treatment, he gave it as his opinion that the clamp and cautery of Mr Smith should be preferred.

Dr Cadell, in a well-reasoned paper on the Varieties of Infecting Chancre, opened up a field for discussion on which the Society did not seem disposed at present to enter. He supported the Dual theory.

Surgeon-Major Macleod read a paper, illustrated by numerous cases and carefully-collected data, on the Surgical Function of the Omentum, which he showed to be protective.

Dr John Duncan read a paper on the Use of Mercury in Syphilis. His conclusions were:—1*st*, That mercury should not be given unless the symptoms were severe, tedious, disfiguring, or in an important organ; 2*d*, That it ought to be discontinued if the symptoms do not speedily yield, or if the general health begins to suffer; 3*d*, That no case of either secondary or tertiary syphilis need be despaired of till mercury has been fairly tried.

Dr Miller read a case of Syphilitic Infection with two different kinds of sores resulting. The weak point in the case was the difficulty of placing implicit belief in what such a patient may admit.

Mr Chiene suggested an improvement in the Antiseptic Dressing of Wounds, recommending the application of small sponges over the deep dressing. This facilitated the evacuation of discharges, lessened the quantity of gauze required, and was cheaper.

The reading of this paper elicited an animated discussion on the general subject of antiseptics, in which the veteran Professor Spence took an active part.

III. *Obstetrical.*—One of the most valuable papers read during my occupation of this Chair was by Dr Matthews Duncan on the alleged occasional Epidemic Prevalence of Puerperal Pyæmia or Fever, and of Erysipelas, illustrated by Tables. This elicited a very interesting discussion; and I think he proved his point, that puerperal fever is not truly epidemic.

Dr Bruce gave his experience of puerperal fever, being a corollary to Dr Matthews Duncan's paper. He had written it to show that when the disease appeared to be epidemic, it was actually due to other causes, such as infection.

Dr Hunter of Linlithgow, following up the work of his predecessors, read a paper on Puerperal Fever and Septicæmia, their relation and probable identity. By his own personal experience he was able to illustrate very forcibly the conclusions of Dr Matthews Duncan.

And now, Gentlemen, I cannot conclude this address without alluding to the losses we have sustained during my presidency. I may first mention the names of Professor Laycock and Dr Strachan of Dollar, both of whom were regular in their attendance here, and contributed valuable papers so long as they enjoyed good health; but protracted, painful illnesses latterly deprived us of the benefit and pleasure of their society. Professor Laycock was a man of much erudition, and had extensive general knowledge; but perhaps his best claim to notice among his professional brethren was his devotion to, and scientific acquaintance with psychology. Dr Strachan of Dollar resembled closely the admirable picture drawn by Sir Walter Scott of the Scotch country doctor. His studies had embraced all the subjects necessary for the able pursuit of his profession in an extensive practice; but he had also found time for the cultivation of general literature.

One of the last subjects to which he devoted his attention was the mischief done to the young of the present generation by too long-continued mental work, and his essay on this most dangerous fault in youthful training should be hung up as a warning in every schoolhouse.

Two other much-esteemed members of our Society have been cut off by death while engaged in the active work of their profession—Dr Warburton Begbie, and Mr Brotherston of Alloa. They were both in their respective ways models of the particular branch they followed. Warburton Begbie, the polished physician, kind yet courtly in his manner, thoroughly read in the literature of his profession, thoroughly competent from long-continued personal experience to grasp the vital points in an obscure and difficult case; ever ready to help the needy, ever ready to assist a friend. Gentlemen, it was my much-esteemed privilege to be present with him during his last moments, and I can never forget the deep impression his calm and peaceful death made upon me. He died as he lived, a true Christian, at peace with God and with man.

Peter Brotherston of Alloa was a typical specimen of the well-educated country surgeon—thoroughly up in the ordinary practical work of his profession, but with a genius for surgery which would not be denied. How much good he did in the extensive district where he worked, and for so poor a recompense, is well known; but it was left to his most intimate friends, among whom I feel it an honour to have been ranked, to appreciate duly the ability he possessed.

While these are the chief losses we have sustained by death, I must still further allude to the eminent members of our Society who have been translated from us — Professor Lister and Dr Matthews Duncan.

The former has made his mark on the annals of Surgery, which no lapse of time can efface, for though some still may doubt the absolute truth of the theory on which his treatment rests, I am sure none will decline to accord him the ennobling tribute of having revolutionized the treatment of wounds.

Of Dr Matthews Duncan I need hardly speak to this Society, for I believe he was about the most regular attender at meetings during the many years he was a member. Though following out, *par excellence*, the particular branch of obstetrics and the diseases of women, there is no one here but will accord him the praise of being a most accomplished medical man, for he could speak, and speak well, on any subject brought under the notice of this Society.

May we hope that a long and a successful career may attend our two members, who have had the high honour of being invited, on account of their abilities, to occupy important chairs in the medical schools of the metropolis.

It only now remains for me to introduce as your President my esteemed friend Professor Sanders, a gentleman in whose praise I could with much gratification to myself, and I am certain with much acceptation by you, hold forth for the next half hour, but as he is present and naturally a bashful man, it will be more becoming for me to retire, again thanking you for the distinguished honour it has been my good fortune to receive at your hands.

ARTICLE II.—*Occlusion of the Vagina.* By JAMES YOUNG, M.D.

(*Read before the Obstetrical Society of Edinburgh, 12th December* 1877.)

THERE are many malformations of the female organs of generation which obstetric surgeons are called on to treat from time to time.

Occlusion of the vagina may be caused by malformation of the hymen—perforate or imperforate—from imperforate vagina; or, as I have seen, from a central septum between the vulva and the os uteri. Cases are met with occasionally where the cervix uteri is imperforate or absent—not to mention the entire uterus.

In the following brief paper, I shall first refer to occlusion arising from persistent hymen—then from imperforate hymen—passing on to those forms of malformation *seriatim,* which may be either congenital or accidental, resulting from disease or otherwise. The virginal membrane is almost always present at the rima vulvæ in greater or less degree. Much inconvenience may arise from that form of malformation where the hymen is spread over the entire opening, leaving a small perforation at its upper margin, as I shall specially illustrate by cases which have come under my observation of late.

CASE I.—Miss L., æt. 27, suffered greatly from dysmenorrhœa, accompanied by a difficulty in regard to the flow of the catamenia. She menstruated at 14 years, and continued regular as to time, but each period lasted ten days. I suspected some hymeneal obstruction, and made a digital examination. There was a firm, tough, and persistent hymen, which, on more careful examination, was found to be perforated; but the aperture was extremely small, fully accounting for the delay in the escape of the menstrual fluid. I succeeded in rupturing the membrane with the finger, and introduced pledgets of lint, soaked in carbolic-oil. The patient made a good recovery. Subsequent to the operation each period lasted only four days. She is now married, but I have not seen her since.

CASE II.—In November 1876 I was consulted by a young lady, Miss D., æt. 24, who stated that she was too long "unwell" at her usual periods, and attended with considerable pain. It seemed from her own description that the discharge was prevented from "coming away" owing to some obstruction. She was subject to hysteria. A tonic mixture of the citrate of quinine and iron was prescribed, and the frequent use of the sitz-bath was recommended. I did not see her again till the beginning of October 1877. She had been married four months. Mrs —— informed me that her medical attendant in the country had advised her to come to town as there was "something wrong with the womb." On making a digital examination I found a firm, persistent hymen, occluding the whole vagina. Mrs —— stated that the catamenia had appeared regularly, but the discharge was scanty, and continued for twelve days. On making an ocular examination I detected a small aperture immediately below the meatus urinarius, about the size of a silver probe. Marital intromission had been attempted, but never had proved *un fait accompli*, the hymen being tough and unyielding. I attempted to rupture with the finger, but failed. On the following morning the labia majora having been well separated by the nurse, and having emptied the bladder with the gum-elastic catheter, I passed a probe-pointed bistoury into the hymeneal aperture, and cut down quarter of an inch. I speedily separated the whole membrane with the finger down to the fourchette, and dressed the rima vulvæ with carbolized lint. The patient made a good recovery.

CASE III.—I have seen one case of congenital vaginal occlusion, where the rima was quite patent, but where the finger was arrested by a firm, dense membrane, not imperforate, the cervix uteri being easily felt through the central septum. The patient had been twice married without issue. I examined her lately. No operation had ever been attempted, or, so far as I am aware, ever been proposed.

CASE IV.—I have had one case of true imperforate hymen. Amenorrhœa led the patient to seek relief from the distressing symptoms of retention. The operation was simple and easy, somewhat similar to Case II. The discharge was dark and disagreeable, but the cure was complete, and unattended by any untoward result either from local inflammation or fever. Antiseptic injections were freely used, and a weak solution of ozonized salt gave the patient grateful relief.

CASE V.—I have never seen any case of atresia where the whole vagina was imperforate beyond the rima vulvæ; but some instances have come under my notice where the vagina was very short and small, precluding marital intercourse.

CASE VI.—In regard to the subject of *imperforate os uteri*, let me say, that only one case has come under my notice in my own practice. An operation was successfully performed with the aid of the trocar and canula; but whether the occlusion was congenital, or the result of local inflammatory adhesions, I cannot tell.

In regard to the possibility of pregnancy occurring in cases of occlusion of the vagina, I hold by the negative. Marital intromission may have been partially performed in *certain* cases; and in *some*, where the perforation has been large, I allow that impregnation has resulted; but as for the rule, I hold, notwithstanding the views of Merriman, Crosse, and others, *ut supra*. Successful coition has frequently taken place per urethram, and spermatozoa may have found an entrance by the perforation in the hymen.

Let me say, that in certain cases of amenorrhœa, I consider it very important to make a vaginal examination, lest we might pass unnoticed certain malformations which have been referred to in this paper, remembering as our motto—*Periculum in morâ*—anomalies in menstruation are ever coming under the observation of obstetricians. Amenorrhœa may arise from many other causes than malformation, both in married and unmarried ladies. Two cases may suffice on this branch of the subject. Mrs R. was married on the 29th of July 1867, at the age of 24 years. She gave birth to six children in Ross-shire, between that date and 1st September 1877—ten years and two months—during which time the catamenial flow appeared eight times. From March 1869 to September 1877, she had never been once "unwell." I am aware that such cases only prove that the process of ovulation may take place independently of menstruation, but Mrs R. did not even menstruate after her children were weaned, and she again became pregnant. The other case is one of much greater interest. Ellen Angus, æt. 29, consulted me on the 1st of October 1877, in consequence of some chest affection. She stated that she had never menstruated at all. She never lost blood in any way, and never suffered from leucorrhœa; she looked delicate. I found the vagina healthy, and the uterus in every way normal. Her mother and sisters had menstruated regularly; her aunt—father's sister—never once menstruated all her life, and is now 71 years of age, and quite well.

ARTICLE III.—*Terebene, as a Dressing for Wounds.* By T. GOODALL NASMYTH, M.B., C.M., late House-Surgeon to the Perth County and City Infirmary.

NOT having seen any account of this substance in any medical journal, I venture to give an opinion on its use, as far as my experience has gone.

The first case that I saw treated by this, was a gunshot wound of the hand, where several fingers were blown off and the hand much lacerated, and, from the nature of the injury, irregular and ragged flaps were left where the destroyed fingers had been removed. Terebene, in the proportion of 1 part to 6 of olive-oil, was used from the first, there never was any putrefactive odour from the wound, very little sloughing took place, and the wound granulated kindly without any bad symptoms occurring. Its use was tested in another case, one of excision of hip-joint, where the acetabulum was diseased as well as the head of the femur. Terebene was applied on lint on to the surface of the wound, and during the first day or two after the operation into the cavity of the wound; in this case there never was any bad odour either, and the large wound filled up very rapidly. Terebene seems to stimulate granulations more than carbolic applications. A wound of the scalp in a drunkard, who fell from a two-storey house, healed without the slightest bad effect occurring, and in several other scalp wounds a like result followed. A case of gangrene, occurring in an amputation below the knee, and delirium tremens also complicating the case, tried terebene as a deodorizer thoroughly, and it answered satisfactorily. The smell from the gangrenous stump was kept down, the gangrene did not extend, and very little sloughing occurred. The patient recovered. As an application to ulcers where there is a great amount of discharge, it is a good application, it diminishes the amount of discharge, and prevents the bad odour even in the most fœtid ulcer.

As an application to burns, it acts just as well as carron or carbolic oil, and it certainly is a more agreeable substance to use than the former.

Although the number of cases in which I have seen it used is not very large, still they were cases which tried its value thoroughly, and I have found it very useful.

In cases where antiseptics cannot be used—and these do occur especially in the country—terebene will be found a very useful application: if the layers of lint or linen are well soaked in the terebene oil, the dressing can, in many cases, be left on without changing for several days, without putrefactive changes occurring.

ARTICLE IV.—*Notes on Two Cases of Stricture of the Œsophagus.*— By Dr P. A. YOUNG, Portobello. With Pathological Report by D. J. HAMILTON, Esq. F.R.C.S.

(*Read before the Medico-Chirurgical Society of Edinburgh, 5th December* 1877.)

DURING the course of the past summer I have met with two cases of stricture of the œsophagus, notes of which I have brought together before the Society by way of contrast. The one malignant in its nature, and presenting some interesting points in the diagnosis; the other simple, with dilatation and hypertrophy of the walls above the point of stricture.

CASE I.—On 26th June 1877, I was called to see J. R., ætat 68, on account of severe pain referred to the right side of the sternum, about its middle, and difficulty of swallowing. The patient informed me that, for the last few weeks, there had been difficulty of swallowing which had gradually increased.

On examination, he appeared to be fairly nourished. The percussion of the chest was normal. On auscultation, there was slight accentuation of the second aortic sound. The sounds in the other cardiac areas were normal. The pulses at the wrist were unequal, the right being smaller than the left. The pupils were regular and contractile. Abdominal organs normal. On asking him to swallow, there was an evident difficulty both with fluid and semi-solid food, solids not being attempted. None was regurgitated, although care had to be exercised lest this should happen. The act of deglutition caused no increase of pain.

At first I had some hesitation as to the exact diagnosis, whether the symptoms were to be accounted for by the presence of an aortic aneurism, or by malignant stricture of the œsophagus. The unequal pulses, the pain, the accentuated aortic second, and difficulty of swallowing, looked like aortic aneurism; but the rapid emaciation soon showed that, although there might be some aortic dilatation present, the chief lesion was malignant stricture of the œsophagus. During the course of the disease the pain continued. The difficulty of swallowing increased, and although there was a distressing feeling of hunger, food sufficient to appease it could not be taken. There was considerable restlessness at night, which had to be quieted by opiates.

Four days before his death the patient spat up a quantity of dark fœtid material, and after this he gradually sank, and died on the 6th of August.

Post-mortem Examination.—The body was much emaciated. The left ventricle of the heart was somewhat dilated. The first part of the aorta was dilated. The middle zone of the right lung was in a state of red hepatization. There was an ulcerated communication between the left bronchus and the œsophagus, about half an inch from the bifurcation of the trachea.

The œsophagus, for about 2½ inches below this point, was much narrowed on account of epithelial cancer which invaded the wall of the tube, and the surface of which was ulcerated at different points, the chief ulceration having opened into the left bronchus as described.

Dr Wilks, in narrating a case somewhat similar to this in the tenth volume of the *Transactions of the Pathological Society of London*, says, with reference to the death by pneumonia in this case, such was the mode of dissolution in by far the majority of instances, and might be attributed to three causes: to the extreme debility and low powers of the patients, whereby an inflammation is likely to be set up; to an extension of the disease of œsophagus into the root of the lung; or an implication of the pneumogastric nerve in the cancer, whereby its nutritive influence is removed from the lung (as in Reid's Experiments). The latter is a cause which has been long held to be an efficient one by Dr Wilks' colleagues, and especially maintained by Dr Gull.

To these three causes may we not add a fourth, as seen in the present instance? Here the inflammatory affection of the right lung was probably caused by some of the cancerous material from the œsophagus having gone down the right bronchus into the lung, and there set up an irritation. The ulceration had ruptured into the bronchus four days before death, as on that day there was a dark and very fœtid expectoration.

Niemeyer says, "that cancerous strictures generally affect the upper and lower third, more rarely the middle third." Klebs (*Handbuch der Pathologischen Anatomie*, Band I. page 161) says, "that the neighbouring segment to the bifurcation of the trachea is the most frequent seat of such strictures." In most of the recorded cases which I have met with, and in the only two cases I have examined post-mortem, the stricture has been at a point corresponding to the bifurcation of the trachea.

Case II.—On the 21st of August 1877, I was consulted by C. E., aged 52, on account of vomiting. The patient was a short thin man, and on interrogating him I ascertained that for upwards of twenty years past he had occasional difficulty of swallowing; but that, when a difficulty occurred, he was able to overcome it by being struck between the shoulders, or if he rubbed his hand along the line of the gullet in the neck. During the last few years the food had been frequently vomited, and the difficulty of swallowing increased, but that for two or three days past he had been able to retain nothing. On examination I found the patient much emaciated, and the wall of the abdomen collapsed, so that the head and body of the pancreas could be felt. The heart and lungs were normal as regards percussion and auscultation. The urine was normal in quantity and colour, sp. gr. 1125, and the heat and nitric-acid test revealed the presence of one-seventh of albumen. On requesting him to swallow, I found he could readily do so, but after an interval varying from two minutes to half an hour, the food, whether solid or liquid, was returned. I never accurately ascertained whether the quantity swallowed was the same in amount as that brought up, but to all appearance it was the same or nearly the same. From a consideration of the symptoms I concluded that the patient was suffering from a non-malignant stricture of the œsophagus, with a dilatation above the seat of stricture, and that the kidneys were in the contracted stage of interstitial nephritis. A week after I first saw the patient, Dr G. W. Balfour saw him with me in consultation, and confirmed my diagnosis. He advised me to try and feed him by means of an œsophageal tube, and also suggested the advisability of performing gastrotomy, should I fail in getting food into the stomach by the œsophagus.

I attempted to introduce a long gum-elastic œsophageal tube, No. 6 size, and after getting it in as far as it would go, I allowed milk, both by syphon action and by means of a syringe, to flow through the tube. After a short time the milk regurgitated, and the tube had to be withdrawn. The tube had evidently not reached the stomach, and the milk accumulated in the sac above the stricture. I tried a prostatic gum-elastic catheter, No. 9, with a similar result. As the attempt to introduce food into the stomach had failed, nutrient enemata were administered thrice in the course of twenty-four hours. During this time the patient was able to swallow all kinds of liquid and solid food, which gave rise to no feeling of discomfort, but all or nearly all was returned.

If the operation of gastrotomy was to be tried, the sooner it was done the better. I therefore asked Mr Chiene to see the patient. Mr Chiene attempted to pass both the œsophageal tube and the catheter, with and without the stylet, but was unable to get the tubes into the stomach. On carefully considering the case Mr Chiene was of opinion that the operation might be tried, although the existence of the kidney complication was an objection, but not an insuperable one. But on putting all the arguments for and against the operation fairly before the patient, he decided not to be operated upon. Although at first the enemata seemed to nourish, after they had been used for three or four weeks, the patient objected to their being used any longer. They were therefore discontinued, and as the quantity of food which reached his stomach must have been almost *nil*, he became weaker and weaker, and sunk on the 12th of October.

Post-mortem Examination.—Body very much emaciated. Heart small in size, and left ventricle concentrically hypertrophied. Lungs emphysematous at anterior margins. Kidneys—right, congested, and cortical substance contracted to half the natural size. Left, congested, cortical substance still more contracted than right. Spleen small, but normal. The œsophagus and stomach I handed to Mr D. J. Hamilton, Pathologist to the Royal Infirmary, who has most kindly favoured me with the following report:—

"The portion of the œsophagus measures—

In length = 10 inches.
Circumference at upper end = $1\frac{5}{8}$ inches.
" at $2\frac{1}{2}$ in. lower down = $2\frac{1}{2}$ "
" at $4\frac{1}{2}$ in. from upper end = 2 "
" at 6 in. " " = $2\frac{3}{4}$ "
" at 8 in. " " = 3 "

Thickness of Coats—

At upper end = $\frac{1}{4}$ "
At $2\frac{1}{2}$ in. below upper end = $\frac{1}{4}$ "
At $4\frac{1}{2}$ " " = $\frac{7}{16}$ "
At 6 " " = $\frac{1}{2}$ "
At 8 " " = $\frac{5}{8}$ "

"The thickening is chiefly situated in the muscular coat, but there is also very considerable thickening in the submucous coat. More especially is this latter condition seen at the cardiac extremity. The mucous membrane is thickened throughout its entire extent, and its surface is covered with superficial ulcers, about from one to two lines in diameter, of an oval or rounded shape, and merely affecting the superficial layers. They are not mere epithelial erosions, but have a distinct loose edge which can be lifted up. The largest and best marked ulcer is seen immediately above the cardiac orifice. Indeed there are two here, one a little smaller than the other, and several smaller ones around them. There is considerable constriction of the cardiac orifice, the forefinger being with difficulty admitted, and this seems to be due to the contracted submucosa. The mucous membrane is thrown into folds by this, and when looked at from above or below they are seen to completely close the orifice. There is no constriction in the region of the diaphragm, everything in this situation being apparently normal. The stomach, for an adult, is very small, and its coats, more especially the mucous, are somewhat thickened. It contains no food. The mucous membrane is also thrown into folds, but there is no trace of ulceration. The pyloric ring is well marked, and the orifice admits the forefinger.

"On comparing the œsophagus with a normal one, I find the following measurements—

Normal œsophagus.
Greatest circumference, $1\frac{1}{2}$ inch.
Greatest thickness of walls, $\frac{1}{8}$ "

"The difficulty in swallowing is, in all probability, to be accounted for thus:—The starting point of the lesion has, apparently, been an inflammation of the mucous membrane, giving rise to thickening of its substance, and to a number of follicular ulcers. The inflammation has evidently extended to the submucosa, and produced thickening of it also. Contraction of this latter coat has occurred at the cardiac opening of the stomach, while above this the œsophagus is dilated. The dilatation is, however, not universal. At $4\frac{1}{2}$ inches from upper extremity it only measures 2 inches in circumference, while above and below this the circumference is greater. At 8 inches from the upper end (or two inches from the cardiac orifice) it measures as much as 3 inches, forming within this and in the upper regions a large sac.

"The food in passing downwards would first fall into the upper sac, and would then meet with a slight obstruction. After passing this it would fall into the large sac in front of the cardiac orifice, and no doubt would accumulate here, and that for two reasons, viz., (*a*) The contraction of the cardiac orifice, and the peculiar folded condition of the thickened mucous membrane, acting like a valve. (*b*) The food having lost a certain amount of downward force in passing through the constricted portion at $4\frac{1}{2}$ inches below the upper extremity. The food would tend to be ejected more readily on account of the ulcerated condition of the mucous membrane giving rise to reflex spasm. The existence of several large ulcers immediately in front of the cardiac opening would be specially unfavourable to its transmission past this spot.

"The hypertrophied condition of the muscular coat is evidently due to efforts in ejecting the food.

"The cause of the difficulty in swallowing may be summed up as being in all probability twofold, viz. :—

"1*st*, Mechanical contraction of the cardiac extremity of the œsophagus.

"2*d*, Reflex spasm from the ulcerated condition of the œsophagus."

A case is recorded by Dr Barker in the *Pathological Society's Transactions* for 1859, where there was extensive dilatation of the œsophagus without stricture, which gave rise to no symptoms during life. In the case now under consideration, the dilatation and narrowing of the tube, although giving rise to a certain amount of difficulty of swallowing, did not prevent the patient being nourished. But the occurrence of an inflammation of the mucous membrane, leading to ulceration about two months before death, prevented food reaching the stomach by the reflex spasm still further narrowing the tube ; and also for this reason, even a small catheter was unable to pass through a stricture which after death would nearly permit the forefinger to pass.

Klebs considers that the cause of the dilatation in those cases where there is no stricture is to be looked for in an inflammation or fatty degeneration of the muscular coat ; while in those instances where there is stricture, the hypertrophy and dilatation results from the obstruction to the passage of the food. He gives one case where there was dilatation of the thoracic part of the œsophagus, with no stricture of the cardiac extremity. The muscular coat of the stomach was hypertrophied, and there was stenosis of the pylorus.

ARTICLE V.—*Report of One Hundred Cases of Diseases of the Ear.* By J. J. KIRK DUNCANSON, M.D., C.M., F.R.C.P. Edin., Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

IN one hundred cases taken from the case-book of the Dispensary for Diseases of the Ear, 6 Cambridge Street, Lothian Road, from July to the end of December 1875, we have the following diseases of the ear coming under treatment:—One case of acute erysipelas of the auricle, occurring in a young debilitated female, which yielded readily to general and local treatment.

Two cases of acute eczema, both occuring in females, one affecting both ears in a young, strong, otherwise healthy, married woman, who was nursing a healthy child. The disease was very acute, throwing off an enormous secretion, which, running down the cheeks and neck, irritated the parts over which it ran. It lasted with the winter in a more chronic form. Hebra's ungt. diachyli[1] gave most relief, with the internal use of iron and arsenic. The other case, in an elderly woman, resulted from scratching and irritating with exposure to cold a chronic eczema, lodging in the groove between the helix and antihelix of the right ear. There has been under my care for years, one case of chronic eczema affecting the external depressions of both auricles, never affecting the hearing, and improving greatly, sometimes almost disappearing in the summer time. The disease occurs in an old housekeeper, who, besides the internal use of arsenic and iron, applies some simple ointment; one containing a small quantity of sulphate of iron is most beneficial.

One case of deformed auricle, a long strip of corrugated skin, with the appearance of a distinct lobule, no external auditory meatus, unless the small dimple from which the markings of the rudimentary auricle run, can be held as its representative. The patient had no hearing on that side of the head, and completely concealed his deformity with his hair. The other ear was normal, but the hearing was impaired, and he suffered considerable pain from a hard plug of wax firmly wedged in the bottom of the external auditory meatus. The patient, a lithographer, did not like to show me his left ear, and refused to allow me to get a sketch or photograph of it; but there is a figure of a rudimentary auricle very like his in Gruber's *Lehrbuch*, page 275, fig. 50. See also Toynbee's *Diseases of the Ear*, page 18, for the description of dissections of such cases; quoted cases, see Wilde and Roosa.

One case of malignant disease, arising from the tympanum in the left ear, was for a long time previous treated as a case of simple mucous polypus. Of late the disease had returned very frequently and with pain; during the six months, July to December 1875, it assumed a different form and consistence, and in the course of one week the meatus would be blocked up with gristly brittle growths extending out into the concha. The disease began about the year 1870 from a blow upon the ear when out at sea in a fishing-boat. The ear was not much pained at the time, but the patient thinks that from the exposure he got cold in the ear, which laid him up for some time, when a discharge came from the ear giving relief. Afterwards a growth came out of his ear, which was removed. A growth had been frequently removed since then with great relief to the patient. Latterly the masses blocking up the external auditory meatus were cut out by curved hook-shaped knives made for the purpose. When the meatus was completely filled the patient suffered intensely, but if we could allow a free exit to the secretions from the deeper parts by the meatus he was in comparative ease. The disease after having fairly assumed a malignant type spread very rapidly, and the patient suffered agonizing pains in the head before unconsciousness relieved him; in which condition he died.

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[1] See Gruber's *Lehrbuch der Ohrenheilkunde*, page 294.

One case of diffuse inflammation of the external auditory meatus, occurring in an old woman, the subject of chronic eczema of the meatus. She was in the habit of using pins, etc., to scratch the meatus, the itchiness being frequently very troublesome. This patient's auricles had lost mostly all their markings, lying very flat and close to the side of the head.

One case of a sore affecting the incisure between the tragus and antitragus. The patient had had a chancre, and the sore yielded to the application of anti-syphilitic medicines.

Two cases of chronic eczema affecting the deeper part of the external auditory meatus, both in females, with a tendency to corpulence. The treatment of these cases is tedious, and the disease in dispensary practice is difficult to overcome. Some of the alkaline mineral waters appear to act beneficially. In all cases the diet of the patient requires to be inquired into.

One case of circumscribed inflammation of the external auditory canal or furuncles of the canal. Usually, we have more than one furuncle occurring when this disease affects the patient's meatus. Early free incision with Gruber's knife, and the application of carbolic-oil into the external auditory meatus, with a plug of cotton-wool dipped in the carbolic-oil, 1 to 15 or 20, has been the most successful treatment locally, and it has been found most successful when the membrana tympani was entire. We require to attend to the general health of the patient. Two cases where a large opening about $\frac{1}{8}$ of an inch in diameter existed in the membrana tympani of one side—one the right, the other the left—the results of a purulent discharge from the tympanum having escaped through the membrane by ulceration. The patients complained of a whistling noise in the ears on using their handkerchiefs to clear the nostrils. They were also the subjects of subacute catarrh of the eustachian tubes and tympana, the faucial orifice specially becoming closed when the patients suffered from cold.

In the case of a young lad, aged 16, the membrana tympani of the left ear was represented by a tensely-stretched, plain, whitish, non-lustrous membrane, without any of the markings of the normal drumhead. It was situated not nearly so deep in the external auditory meatus as in a healthy ear. The meatus is narrow and straight. There is a cicatrix with a depression over the mastoid. In the right ear, a purulent discharge coming from the tympanum escaped by the meatus through a perforated, very deeply situated drumhead. The bony part of this external auditory meatus is narrowed from hyperostosis. The lad, a member of the Edinburgh Industrial Brigade, believes that the cause of his ear-disease was scarlet fever when very young. The hearing distance after being under treatment for some time was R.: H. D.: W. = $\frac{12}{60}$; L.: H. D.: W. = $\frac{6}{60}$. Where R. means right ear, H. D. the hearing distance, and W. the watch, the denominator of the fraction indicates the number of inches at which the watch can be heard in health; the numerator, the actual distance in the case under examination. The application of the air-douche improves the H. D. in the right ear.

Two cases of disease of the mastoid bone, both occurring in married women, one of long standing, and will probably continue until a sequestrum of bone comes away, which the patient refuses to have removed by operative interference. The second case came under our notice before much injury to the bone had taken place. The pain in and about the ear had been treated as most affections of the ear are: "Syringe the ear, and if that does not do, apply a blister behind it, then it is not good to interfere too much with the ears." In this case the patient had been passing sleepless nights, with a constant overpowering pain, most intense where the auricle unites with the mastoid, and deep into the meatus. The patient felt feverish and had no appetite. She felt constrained of herself to try something to obtain relief, and applied leeches over the mastoid behind the auricles, with hot fomentations afterwards, which gave her so much ease that she was able to venture out of doors. The pain returned (she thinks she got cold), when she continued applying constantly hot fomentations whilst going about her household duties, and on some purulent matter coming from the meatus she got some relief. The patient came to us two days after the discharge from the meatus began. After washing out the purulent discharge from the external auditory meatus, on making an examination with the frontal (laryngoscopic) mirror and speculum, one could see pus coming from a small fistulous opening situated about the middle of the back wall of the meatus, and about $\frac{1}{4}$ in. external to the membrana tympani. On moving the auricle the patient complained of pain, and on pressing on the textures over the mastoid, the patient felt pain deep in the meatus, and one could see pus escaping more freely by the fistulous opening. There was no discoloration of the textures covering the mastoid, but the auricle stood out from the temporal bone more than the other. All the parts had a bleached appearance, from the constant fomenting. On making pressure over the mastoid, it gave a feeling of deep-seated pus. The patient was told to use poppy-head fomentations, and I would call at her home next day, as an opening would require to be made behind her ear, to which she consented. I made a free incision down to the bone, about half-an-inch from the auricle, and parallel to it. The bone was felt rough and bare, the periosteum was separated from it. No sequestrum could be felt. The wound bled very freely. It was kept open with lint inserted into the wound. The patient felt almost immediate relief from the tense, stretched feeling which had been almost constant since the pain began, on that side of the head. The purulent discharge from the meatus soon ceased, and the opening behind the ear healed up kindly from the deeper part, until the skin was allowed to heal about ten days after the operation. The patient remained free from pain and trouble with her ear, and at the end of one year reported herself in good health, and had never again suffered from her ear. One case of pain, affecting the auricle and external auditory meatus of the left ear, yielded to morphia and quinine.

There were twenty-one cases of impacted cerumen or wax in the external auditory meatus. In most of the cases, the patients came complaining of such an affection in one ear only; but, on examining the other ear, there was an accumulation of wax in the meatus, which, although not disturbing the patient, was removed as well by the syringe and tepid water. One patient, an old blind man, upwards of seventy years of age, comes every fourth month to have the impacted cerumen removed from both external auditory passages. His hearing is very acute when the external ear-passages are free.

There were seven cases of polypus. In all the cases the polypus arose from the tympanum, and in all of them the polypus was removed by applying polypus-forceps and using torsion. The cases are carefully watched afterwards, and small polypi or granulations removed by Toynbee's forceps or the use of caustic applications. Sometimes the after-treatment is prolonged.

There were twenty-two cases of otorrhœa — two where the otorrhœal discharge came from the external meatus, external to the membrana tympani. In the other twenty cases, the otorrhœal discharge came from the tympanum, escaping through a perforated membrana tympani; or, as in three cases, the membrane was entirely gone as well as the chain of bones of the tympanum.

Four cases, where a fungus growth could be traced with the microscope amongst the purulent discharge coming from the tympanum. This disease has been called myringomycosis, and owes its origin to the development of a vegetable fungus. Roosa gives six varieties of the vegetable parasite that may be found in the ear. I have met with two forms, the *Aspergillus nigricans*, and the *Aspergillus flavescens*. The *Aspergillus flavescens* occurred in three cases of otorrhœa of old standing, and where the patients came from one of the most unhealthy districts in our city, viz., the neighbourhood of the canal basin. The case of *Aspergillus nigricans* occurred in both external ear-passages in a young woman from the neighbourhood of Glasgow, whose condition of health and apparent circumstances gave one the impression that she would live enjoying favourable hygiene. I could trace no deleterious influences in her history. The membrana tympani in both of her ears was entire; but no doubt the parasite had found a congenial soil in a neglected chronic eczema of both external ear-passages. This case is still under treatment—at least, she turns up for a fortnight or so every six or eight months, and is expected soon, but has been away longer than usual this time. A considerable improvement takes place after a careful attention in carrying out the treatment for a fortnight, when the patient, not being annoyed by the sense of fulness and distressing noises in the ear, neglects the constant application of the remedy, the disease soon springs up again and nearly fills the meatus. A strong solution of corrosive sublimate, of the strength of three grains to three ounces of the spiritus vini rectificatissimi of the German Pharmacopœia, is used at first, and this is diluted down with rose-water as the disease subsides; or, perhaps it would be better to say, as the stronger solution becomes unbearable. It is generally only half the strength by the end of a fortnight, and this strength the patient can go on using for a long time. At first it is applied four or five times a day until all the flakes and epidermal scales are removed by syringing with a strong alkaline solution, and it is as these are removed that the original strength requires dilution.

Twelve cases of subacute catarrh of the tympanum and eustachian tubes. These cases generally occur in growing children. The children are out of sorts, do not take proper meals, like to eat pieces, they are apt to be considered stupid or dull-headed. The deafness arising from the obstruction to the entrance of air to the tympanum through the eustachian tube is generally readily relieved by the application of the air-douche. The general health of the young patients requires to be attended to. Gargling is of great benefit. The early treatment of such cases in a thorough manner prevents the establishment of a more distressing and serious malady apt to rise from neglected cases of subacute catarrh in after-life.

Our next group, chronic catarrh, of which we had thirteen in the hundred cases. This chronic catarrh we find as a very common cause of deafness and other distressing symptoms, such as tinnitus aurium in this changeable climate.

One case of very marked *proliferous catarrh*, *otitis media hypertrophica* of Gruber, came under treatment at this time. The great distress caused to the patient by the constant noises in his ear was very trying to witness. He seemed as if his reason would be affected from the loss of sleep, and constant distraction from all the affairs of life, caused by the continual noises in his ears and head. No wonder this form of deafness was called nervous deafness by the old authors. The long-continued use of the hydrochlorate of ammonia in a bitter infusion has given marked relief. Myringotomy did no good.

Two cases of hereditary syphilis in females, where the ears became affected about the age of puberty. The deafness came on gradually, and increased after affection of the eyes had become stationary. In one case, occurring in a young man, neither myringotomy nor myringectomy have given any benefit. One case of acquired syphilis, where, after the patient had been intemperate for some time, ulcerations of the tonsils and pharynx caused obstruction to the entrance of air into the tympanum through the eustachian tubes. The resulting deafness yields to the application of the air-douche, and anti-syphilitic remedies. The use of a gargle of dilute nitric acid is of great benefit, whilst as long as the old soldier does not waste his well-earned pension in injuring himself with noxious stimulants the result of his wounds does not trouble him.

Besides one case of congenital deaf-muteism, there were three cases of acquired deaf-muteism, *i.e.*, where the child has given intelligent answers to questions, and from some cause has lost its hearing at an early age, and forgets the words it had learned. The most frequent causes are scarlet fever, then tubercular disease leading to deposits in the brain or some part of the ear, causing total destruction of the conducting or recipient parts for the sound-waves in the organ of hearing. Scarlet fever was the cause in two of the cases; and, in another, the child heard and spoke well up to about two and a half years, when it suffered from enlargement of the glands of the bowels and severe sweatings, followed by an abscess behind right ear, leaving a cicatrix with apparent want of bone. When the child recovered after a long illness, its hearing power was gone in both ears, and it soon forgot the words it had learned to speak. Such cases are specially favourable for instruction by the "German System," *i.e.*, where the pupil is taught to speak by imitating the voice of its instructor, and following the movements of the lips with its eyes. Thus, also, it soon learns to know what is spoken. Strange it is, that in Edinburgh, where this method of instructing the deaf and dumb—rather the deaf, not dumb—was in great perfection in the beginning of the present century under the Braidwoods and their successor Mr Kinniburgh, there should be no opportunity of instruction by the German method given to our fellow-citizens, and no means whatever of educating the deaf and dumb by our active School Board. When they have to consider the education of the deaf-mute, the so-called "German method" will, we hope, be adopted for suitable cases.

ARTICLE VI.—*Clinical Notes on some of the Eccentricities of Enteric Fever.* By KEITH NORMAN MACDONALD, Esq., M.D. Erlang., F.R.C.P. Edin., L.R.C.P. Lond., etc., Cupar-Fife.

HAVING had numerous opportunities during the past twelve months of watching the spread and progress of an epidemic of enteric fever in this apparently favourite nidus, from which the disease is rarely absent, I have gathered together sufficient data to enable me to speak with some confidence on a few of the peculiar forms which this disease occasionally assumes.

To do Cupar-Fife justice, however, I must observe that the lessons which sanitary science have taught elsewhere have found echo here also in the minds of our most enlightened inhabitants, and though these have not been wafted towards us by "the gentle zephyr"—municipal squabbles occasionally clouding the serenity of our atmosphere—and though our steps in advancement cannot be measured by strides, we have followed in the wake of our more important neighbouring towns by supplying ourselves with a plentiful supply of good potable water in place of the old-fashioned pump-wells, so admirably adapted for imbibing organic matter from a superficial drainage system and a not over-clean or favourably-situated locality. The town, which is situated on the north bank of the river Eden, ten miles west of St Andrews, is of considerable antiquity.

"At an early period the Macduffs, Thanes of Fife, had a castle on a height in the midst of the marshy grounds which then bordered the river Eden," now occupied by the Madras Academy buildings, above the southern bank of the Lady Burn, which flows through the northern suburb of the town. "The earliest charter of the burgh was granted in 1363 by David II. conferring the privileges of trade upon the burgesses. These privileges were repeatedly confirmed and extended by Robert II. and subsequent sovereigns."

The sewage at present is discharged into the Lady Burn, which joins the Eden at the eastern extremity of the town, and conveyed thence directly towards the sea below Guardbridge, a few miles west of St Andrews.

Being lowly situated in the valley of Strath Eden, and close to the banks of that stream, the town is frequently enveloped in a veil of mist, called in this part of the world a "rime," which is a source of great annoyance to asthmatics and others suffering from affections of the chest; and though its old-fashioned houses and narrow alleys exhibit traces of the architecture of bygone days, it is upon the whole considered to be a comparatively healthy town. It has got a population of about 5105 inhabitants, and an annual average death-rate of 20·5 per 1000 of its population. The average annual death-rate during the last four years has been 20·5. It is not my intention to enter into the vexed question of the etiology of enteric fever in this paper, but it is right that I should, as an impartial observer, state briefly what has come under my own observation relative to the various and probable causes which have been at work in retaining amongst us a scourge, which is now believed to be entirely preventible and capable of being effectually dealt with, by observing those hygienic means which come under the influence of the ordinary laws of sanitation.

The new waterworks which supply the town of Cupar, and which were opened in September 1876, have been erected at a considerable cost on the Clatto Lake, situated three miles south-west of the town, where there is an elaborate system of filtration, and the distributing reservoir in connexion with this system of waterworks is placed on the top of a small hill (Garly Bank) one and a half miles south of and overlooking the town. This reservoir is quite exposed to the elements and everything else of a contaminating nature, and the only wonder is that the engineers who so skilfully constructed the works should have omitted to secure the distributing reservoir from all sources of contamination; for it is obvious that any body of water, situated as this reservoir is in an exposed locality, is liable to contamination by insects, the excreta of birds, and decaying animal and vegetable matter. This will, no doubt, be remembered in time, but for the present it is sufficient to notify the fact, as it is of considerable importance from a scientific point of view.

It is but fair, however, to mention that many cases of typhoid fever have occurred during the period under consideration several miles beyond the precincts of the town, and, indeed, all over the county, as well as other zymotic diseases, such as scarlet fever, measles, and hooping-cough, so that it is difficult to draw accurate conclusions as to whether the zymotic agent in the first instance originated in any particular isolated locality, or was simultaneously spread over an extensive area through atmospheric influences.

For my present purpose I have selected fifty cases for analysis, and amongst these I have only had three deaths which could be attributed directly to the disease. This favourable result has no doubt been due partly to the mildness of the epidemic, and partly to the large proportion of young persons who were affected, and perhaps, also, in some measure to the method of treatment adopted.

The first case which came under my observation was that of my own cook, a young woman aged 26, who was struck down with a very severe attack of the disease on the 1st of November 1876. As this case appears to have been an isolated one, and as there are several points of interest in connexion with it, I must enter briefly into details in order to exhibit its salient features, and to remark on the probability of its having arisen spontaneously, and independently of any epidemic influences.

In the first place, the girl was a complete stranger in the locality, and had no communication whatever with any one who was known to have had the disease. My house, moreover, which is a new one, is situated upon elevated ground removed from the town, upon a gravelly soil, over a substratum of rock, and is supplied by water from an artificial well, 30–50 feet below the surface of the soil through whinstone rock, part of which had been blasted in the operation of sinking. There is, however, a cultivated field adjoining in its immediate vicinity, which has been highly manured from time to time, and an outdoor privy—a common arrangement about country-houses in Scotland—not far off (12 yards). From a cursory analysis of this water, made by myself a couple of months prior to the girl's illness, I had reason to suspect that animal matter had found its way into it, for I observed several bacteria and monads, in samples which I subjected to a microscopical examination. Another circumstance of no small importance was the existence of a cesspool "on the most approved principle," in the centre of the wash-house, immediately adjoining the kitchen. Into this cesspool the girl was in the habit, contrary to orders, of depositing slops and all sorts of rubbish, which unfortunately probably "helped to plant the wound that laid her low."

Of this I had no doubt, as I examined the drains myself, and found too strong evidence of the presence of mephitic effluvia, which extended through the house generally beyond her apartments; and though disinfectants were freely used, they were too late to avert the catastrophe which befell her. On the appearance of her illness I had the floor raised, and the cesspool placed outside the house, with the result so far that no one else has since suffered any inconvenience. This case turned out to be a most formidable one. On the third day her temperature rose to 105°, and, as she objected to have a nurse to attend upon her, it afterwards transpired that in her delirium she came down stairs in the middle of the night, where she remained for several hours, not being able to get back to her room again.

Immediately on learning this I procured a nurse, such as could be had, and personally superintended the treatment. Notwithstanding this, however, her case assumed a very serious aspect, and gave rise to the gravest anxiety, her temperature never falling below 103°, with a weak fluttering pulse at 140 beats in the minute, and incessant delirium at night, with remissions towards morning. On the 6th day a troublesome diarrhœa set in, with abdominal tenderness, and tympanitis, which continued for a fortnight; after which there was more or less constipation. The moment muscular tremors were first noticed free stimulation with brandy, egg-flip, and milk was resorted to, and poultices, turpentine stupes, and an ointment composed of extract of belladonna and poppies were sedulously applied to the abdomen with marked relief. Bismuth, kino, and opium were also administered internally, assisted by enemata of starch with laudanum, and evaporating lotions (no ice being procurable) applied to the head.

My anxiety was enhanced by the apparent inertness of the treatment, which embraced the exhibition of quinine and other antipyretic remedies; and I had almost despaired of success, when I discovered that the finest cognac, which I had been supplying, instead of being duly administersd in tablespoonful doses every three hours, found its way into the stomach of the faithful nurse, especially at night, when it was most needed by the patient.

This circumstance is worth mentioning, for if the patient had died, my faith in alcoholic stimulants — which shall afterwards be shown was at least the means of saving one life — would have been shaken, and this little secret would have lain at rest for ever. To complicate matters, a double pneumonia set in at the end of the second week, and subsequently retention of urine, necessitating the use of the catheter morning and evening. Altogether, she was seven weeks under treatment, and though a relapse set in on the thirty-sixth day, her ultimate recovery was complete and satisfactory. No rose-coloured spots made their appearance at any time during the course of the disease, and, indeed, I find that in twenty per cent. of the cases I have witnessed there were no spots. I do not therefore place much reliance upon them as a diagnostic sign, or, in other words, I do not defer my diagnosis until they make their appearance.

Another case, not less serious than the one above related, was that of a young woman aged 28, residing three miles beyond the precincts of the town, who brought the disease with her from Stirling. This case also nearly proved fatal, having been complicated with pneumonia and jaundice, and was only saved by good nursing and the early use of alcoholic stimulants. Having travelled from Stirling by rail on the second day of her indisposition, 5th February 1877, she probably caught cold, for on the fourth day a distressing cough set in with hurried respiration, 30 in the minute, with large and small crepitation over the area of both lungs antero-posteriorly, which soon developed into moist rattles, almost amounting to gurgling, with comparative dulness on percussion, which could scarcely be borne, especially all along the left side anteriorly. Her temperature exceeded 105°, with a weak fluttering pulse, which scarcely could be counted, upwards of 140 in the minute. In such a dilemma the proper course of treatment was one demanding the greatest caution and discrimination. Mustard plasters and hot poultices were applied to the chest anteriorly, and turpentine stupes posteriorly, with small doses of ammonia, ipecacuanha-wine and ether internally, followed by quinine, nitro-hydrochloric acid diluted, and three grains of blue pill on three successive nights. Chlorate of potash proved very serviceable in allaying the excessive thirst, and evaporating lotions to the head calmed the nocturnal delirium, while bismuth and kino kept the diarrhœa in check. This case was eight weeks under treatment owing to a very tardy convalescence, but ultimately did well, though some swelling remained about the ankles for three weeks longer, without, however, any traces of albuminuria. No rose-coloured spots could be detected, even if they had appeared, in consequence of the jaundiced condition of the skin.

As to the probable influence of impure drinking-water as a source of the disease, I am able to record two remarkable cases exhibiting strong evidence in support of this theory. One was that of a little boy 11 years of age, the son of a farmer, residing in a particularly healthy locality two miles out of town. This boy was in the habit of coming into town daily for the purpose of attending the Madras Academy, and, on cross-examination, acknowledged to have drank copiously of the water supplied from the pump which exists in a shed on the play-ground of the school.[1] His attack was a very sharp one. Being a very robust boy, his face was much flushed, and his temperature on the third day (my first visit) registered 103°, with a quick, full, and bounding pulse, 120 in the minute, and considerable delirium at night. On the following evening a smart attack of hæmorrhage took place from the nose with considerable relief to the more urgent symptoms. This I have found to be a very common symptom in young people, and the constant picking at the nose with tremulous fingers I consider very characteristic.

At the end of the first week diarrhœa set in with tenderness of the abdomen and tympanitis, but without any marked swelling, which continued to the end of the third week, and was with difficulty arrested by the topical application of hot fomentations, poultices, and turpentine stupes to the abdomen, and the internal administration of bismuth, catechu, and syrup of poppies. He was kept almost entirely upon a diet of milk and lime-water, with teaspoonful-doses of brandy every three hours. This case was a typical example of enteric fever; the rose-coloured spots made their appearance on the chest and abdomen on the tenth day, and the high temperature from the beginning, together with the abdominal pain, diarrhœa, delirium, epistaxis, nervous twitchings, and prostration, removed all doubt as to the nature of the disease.

His mother also, a woman aged 49, who slept with him during his illness, contrary to orders, was stricken down with the same malady, but in a different form. Her symptoms began on the 10th of July, and resembled more an attack of typhus, being marked from the first day by a great nervous prostration, intense headache, flushed face, and forebodings of evil.

Her temperature fluctuated from 103° to 105°, with a quick, weak, and wiry pulse, amounting to 130 in the minute, dark sordes on the lips and teeth, and low muttering delirium. An attack of epistaxis set in on the third day, with great relief to the headache, which was not in the slightest degree influenced by cold applications to the head, indicating very plainly the beneficial influence of the *vis medicatrix naturæ;* but as I shall afterwards have to point out, that the resources of nature are sometimes no less clumsy than those of our own art when left unaided, I shall reserve my comments on this head for the present.

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[1] These wells are not only old, but ancient. I have met with no one who can give me an idea of their antiquity. They have since been replaced.

In this case muscular tremors and nervous twitchings were very apparent on the third day, and were immediately met by the free exhibition of brandy, egg-flip, and milk.

Dr Constable of Leuchars saw both cases with me in consultation, and he entirely concurred with me in considering them of more than average gravity. Indeed, our prognosis regarding the latter was very guarded, but with the assistance of excellent nursing and careful watching the case was brought to a favourable issue on the twenty-first day. A third member of the same family took ill on the 22d of September, whose case assumed a very mild type, and as nothing unusual occurred during its course it does not demand any special mention in this place.

I should have mentioned that disinfectants — carbolic acid, chloride of lime, and iodine—were freely used from the commencement of the outbreak amongst this family, and orders were given to have all bed and body clothing duly submitted to a process of boiling; but such precautions are seldom carried out with exactitude in private practice.

The other case, which I had reason to suspect was due to the influence of water contamination, was that of a young lady who lived in the street immediately adjoining, and parallel with the Castle hill and the site of the Madras Academy.

This lady assured me that she had had no communication whatever with any one who was known to have had any fever; her circle of friends was limited, all of whom were healthy, and she knew of no one else likely to impart the germs of the disease to her. I conclude, therefore, that it is extremely improbable contagion had anything to do with her case. A significant fact, however, came out in my examination of her. She incidentally mentioned that about a week prior to her illness she observed a centipede drop into the tumbler she held under the tap from which she was in the habit of drinking. This was the new water supplied to the town, but as the works had not been long opened, the incident was not very surprising, though sufficiently alarming. She also on former occasions noticed particles of indescribable matter flowing from the same source, which of course gave rise to no suspicion. This fact by itself does not constitute proof of the source of the fever, but it bears strong evidence in favour of the water pollution theory. Upon the whole, her case was not a very serious one. She took ill on the 11th of August 1877, and was convalescent by the 10th of September following. Her temperature during the course of the fever did not exceed 104°, and the diarrhœa and delirium, though pretty constant and troublesome, did not give rise to any grave anxiety.

The fungiform and filiform papillæ of the tongue were very red and prominent,—a symptom in such cases always denoting considerable gastro-intestinal irritation; but fortunately there was no relapse, and convalescence was fairly established on the twenty-eighth day.

Few people understand or believe that a person labouring under typhoid fever may, during at least the first ten days of the disease, attend to his ordinary duties or occupation, without exhibiting any particular symptoms, beyond slight diarrhœa, pains in the loins, with loss of energy, and slight lassitude. Numerous examples of this nature have come under my observation where I had been called in, or called upon often towards the end of the second week for what was supposed to be a slight attack of diarrhœa or feverishness with headache; and in other cases to combat a relapse, the original attack having been treated by ordinary domestic remedies; the patient in the meantime having resumed his or her work, and becoming alarmed at the renewal of former symptoms, with perhaps repeated rigors, and more or less nervous prostration. Such cases I have found not at all uncommon in this part of the world, requiring care in their discrimination, and, as they invariably assume more or less of an adynamic type, demand stimulants and antipyretic remedies at an earlier stage than those cases which present a sthenic character from the commencement, requiring emetics and other measures of an antiphlogistic nature.

By way of illustrating some of the foregoing remarks, I shall quote two cases of young men who had been following their occupation while suffering from typhoid fever. One was that of a militia recruit, aged 25, belonging to the Fife Artillery Militia, who came up for the training on the 1st of May 1877. He reported himself sick on the 16th, and was treated for an ordinary attack of diarrhœa.

On this date I noticed that he was a little shaky, and that his tongue was unusually red at the tip and edges,—symptoms by no means uncommon amongst men who indulge freely in the most potent spiritous liquors; but I did not recognise the true nature of his disease until the following day, when I found that he was unfit even for light duty; and though his temperature was only 101°, I ordered him to remain in quarters. It afterwards transpired that he had been ailing more or less since the 12th, and notwithstanding the discomfort of wearing his uniform, to which he was not accustomed, and the fatigue of manipulating the guns, he stuck to his work as long as he was able. His case turned out to be one of ordinary severity, and as proper accommodation and attendance could not be procured for him in his lodgings, he was sent into hospital on the 26th of May, where he remained until the 9th of June; and after a further three weeks' rest he was able to rejoin his regiment at Dunbar on the 1st of July.

The other case was that of a young man, aged 21, a tailor by trade, who was seized with rigors on the 8th of October 1877, followed by headache, pain in the back, general lassitude, and diarrhœa. He walked very smartly up to my house on the morning of the 9th, and described his symptoms. As it was rather important for him, on account of the nature of the situation which he held, that I should give an opinion as to whether he ought to continue at his work or not, and how long he was likely to be ill, I hesitated in making a rash diagnosis. I observed, however, the same morbid condition of the tongue which was seen in the case of the militiaman, and as his temperature was 102°·5, and having no doubt as to the existence of rigors, etc., I told him that I feared he was going to have a mild attack of typhoid fever. He appeared much startled at this information, and could scarcely believe me; so it was arranged that he should return to his lodgings, keep to his bed, and that I should visit him on the following day. The time for administering an emetic with any chance of success having passed by, an astringent mixture, containing bismuth, kino, and opium, was prescribed, with farinaceous diet and milk. On visiting him next day, I found that there was no improvement. In fact, his temperature was higher, now registering 103°. I had no hesitation, therefore, in assuring him that my suspicion of the previous day was confirmed; whereupon he immediately rose from his bed, appeared as if nothing were the matter, and decided at once upon returning the same day by rail to Dundee, from whence he came, a distance of 12 miles, including two miles of a ferry across the Tay. He arrived there without being much the worse of his journey, remained in lodgings for two days, and was admitted into the Dundee Infirmary on the 12th October, where he remained for thirty-nine days, his case having been prolonged by an attack of pneumonia. Perhaps one of the most unvarying symptoms of typhoid as an indication of the probable severity of an attack is a high temperature from the outset, and a state of hyperpyrexia. This I have been able to verify by frequent observation, but too much reliance ought not to be placed upon these conditions alone, for nothing taxes the judgment of the practitioner more than the question of prognosis; and yet it is essential that he should always be prepared to give an intelligent and not too evasive a reply to anxious and inquiring friends as to the probable duration and termination, not only of this, but of most diseases for which he is called upon to treat.

From a considerable experience of now nearly twenty years, I have no hesitation in affirming that a frank statement of one's opinions, and always a readiness to comply with the wishes of friends as regards consultations—even suggesting them in dangerous cases — and, in fact, showing an unmistakable zeal for the patient's welfare by never being mysterious, the ultimate confidence and credit attained more than counterbalances the petty annoyances which most men, who labour under the disadvantage of being general practitioners, occasionally encounter.

As regards the question of temperature in typhoid fever, the prognosis may be decisive, and yet guarded, as the following case well exemplifies.

A young florid-complexioned country girl, aged 17, was seized, on the 24th October 1877, with rigors, severe pain in the head and back, vomiting, and general pyrexia, followed by diarrhœa and delirium; and as the family with whom she served got alarmed at her condition, I was called in to give an opinion as to the nature and probable duration of her malady. Finding that her temperature registered 105°, with a quick bounding pulse, at 120 in the minute, with great heat of skin and flushed face, I predicted a sharp attack of enteric fever, which would probably continue for at least three weeks; but qualified my opinion by observing that, if spontaneous hæmorrhage took place from the nose, the severity of the attack might be modified. She was immediately sent home to her parents, a distance of three miles into the country, where she arrived in safety.

The expected nasal hæmorrhage did take place on the following day; but she must also have caught cold on her journey, as I found on my next visit that most troublesome of all complications, congestion of the lungs, with a harassing cough. Hot poultices were immediately applied to the chest, and ipecacuanha-wine, sweet spirits of nitre, and liquor ammoniæ acetatis, administered internally, with the best results. The diarrhœa and delirium were kept in check by the usual remedies; and, though the case was one of considerable gravity, she was convalescent at the end of the fourth week, and soon after regained her former strength. No rose-coloured spots were observed in her case, but it is quite possible they may have existed, as my visits were few and far between.

I have already remarked that attacks of epistaxis in typhoid are, as a rule, more beneficial than otherwise in young and robust people, and no doubt many of these cases might be benefited by general bloodletting at the commencement in anticipation of the spontaneous outflow; but it is obvious that the primary difficulty in such cases lies in the proper selection of cases; and, doubtless, if we err at all, it is best we should do so on the side of caution. Our forefathers bled in almost all cases, and when a case proved fatal, the untoward result was put down, not to the bleeding, but to some other cause, and the next case was bled even more freely, with the result that—

> "Blood was flowing,
> And patients were going!"

Happily, we reason differently nowadays, and, no doubt, with better results.

The much vaunted *vis medicatrix naturæ*, or healing power of nature, has been much relied on from the earliest times, and both cherished and admired by helpless medical philosophers as a factor not to be interfered with or thwarted by the resources of our art. Without doubting the inherent power or *vis vitæ* of the animal economy in bringing about changes which cannot be accounted for, the careful observer of stubborn facts must admit that this very power of nature often destroys the life which it was supposed to be endeavouring to save, and this can be accounted for by our ignorance and misconception of natural phenomena. What we term death is of the same importance to nature as what we term life. Both are processes of which we know but little, and when we talk of the power of nature in healing, we often see the power of nature in killing. As an apposite illustration of the killing power of nature, I may cite the following case, that of a young girl, aged 15, who had never menstruated, and who was seized with an attack of enteric fever on the 22d of September 1877. At first the disease assumed a somewhat mild type. On the fourteenth day, however, a rather alarming attack of epistaxis came on, followed by an equally severe outburst on the fifteenth, when I was called in, more for the purpose of arresting the hæmorrhage than for treating the general disease. The prompt application of cold to the head and face, raising the arms above the head, and the application of styptics in the nostrils, soon checked the flow; but she had lost so much blood before I saw her—nature evidently having overdone her work—that her strength was in consequence very much reduced. Her temperature was only 101°, accompanied by a quick weak pulse, upwards of 140 in the minute, and great nervous prostration. So soon as she rallied from the effects of the hæmorrhage, stimulants and nutrients were administered every three hours, but the prostration, if anything, appeared to gain ground. On the following morning, the sixteenth day, her pulse was so quick and weak that I could scarcely count it, being about 150 in the minute. The delirium, which had been incessant during the night, was scarcely influenced by the assiduous application of an evaporating lotion to the head. Her lips, gums, and teeth were covered with black sordes, and her tongue was terribly parched and cracked. Small diphtheritic patches appeared at the back of the throat; she passed water unconsciously in bed, and altogether it seemed as if she could not possibly outlive the day. At this critical juncture I increased her quantity of alcohol to one tablespoonful of brandy every two hours, with a nutrient enema, containing beef-tea, brandy, and milk, twice a day. The great therapeutic value of alcohol was in this case very clearly demonstrated, from being in a state of profound exhaustion at my morning visit, so much so, indeed, that death was hourly expected, she rallied towards the afternoon, took some nourishment, and recognised those around her, answered questions intelligibly, and passed a better night; but the debility produced by the loss of blood so much favoured the diphtheritic exudation, that she sank on the eighteenth day, having been in a comatose state for some hours previously.

The most remarkable instance of the great value of alcohol in this disease which it has ever been my lot to witness, was in that of a young girl, aged 18, a factory-worker, living in one of the poorest quarters of the town, and whose life was, without doubt, saved by the timely and free use of brandy. This girl was struck down with the disease on the 27th of June 1877, and I first saw her on the 9th of July, having probably been called in to give a medical certificate in the event of death occurring—a not unfrequent mode of procedure resorted to by some of the poorer classes. The tale is a simple one: She lived in a wretched little apartment, badly ventilated, and surrounded by mephitic vapours of an indescribable nature. A glance was enough. The whole scene presented the appearance of terrible poverty and gross helplessness, ignorance, and mismanagement. The patient lay utterly prostrate, and I felt at once as if in the awful presence of death. She breathed quickly, and coughed incessantly. Her countenance assumed a cadaveric appearance, the mouth being half open, and the lips, gums, and teeth were covered with black sordes; there was drooping of the upper eyelids, and that peculiar appearance of flatness in bed indicative of imminent dissolution; moist rattles were heard all over the chest; her voice was terribly feeble; her tongue was so parched and tremulous that it could not be protruded between the teeth, and she was quite unable to move in bed or assist herself in the slightest degree. Her temperature was only 100°·5; but her pulse was weak, compressible, and beating at the rate of 130 in the minute, with well-marked subsultus tendinum and nocturnal delirium.

I immediately ordered half a glass of brandy, which was administered in teaspoonful-doses at a time, mixed with water—the power of swallowing being almost gone—and directed the same quantity to be repeated every two hours, with nutritive enemata and an evaporating lotion to the head, as in the preceding case. Instead of finding her a corpse, as I expected, at my evening visit, I found her if anything improved, but still in an extremely exhausted condition. Fifteen minims of the liquid extract of opium were added to each enema to restrain the diarrhœa, which was not excessive; and the same treatment was pursued, with small quantities of milk and lime-water at frequent intervals, with varying success, for several days. At length, on the 18th of July, signs of real amendment presented themselves, and notwithstanding the unfavourable circumstances under which she was situated, she was convalescent at the end of the month, or on the thirty-fourth day from the commencement of the attack, when, for economic reasons, my attendance terminated. I subsequently learned that her convalescence was rather protracted, and that she resumed her ordinary occupation towards the end of August, though still somewhat weak. In none of my cases did hæmorrhage from the bowels occur, which can be accounted for by the mildness of the epidemic; and I am bound to state that I have been disappointed with the treatment by emetics in the early stages. Indeed, in those cases where spontaneous vomiting occurred at the commencement, I invariably found that it was a precursor of a sharp attack, and it would be scarcely scientific to expect any benefit from the merely mechanical act of unloading the stomach. The poison must be in the blood, not in the stomach; and as all the evidence we possess on the subject tends to show that it is of a fermentative nature, the treatment by emesis ought to be looked upon as, to say the least of it, antiquated.

By far the greatest variety of symptoms were observable amongst children, while some presented all the symptoms of the severest attacks compatible with safety ; others, often members of the same family, appeared to suffer only from a febricula, whose cases might have passed unrecognised unless the characteristic symptoms of slight abdominal tenderness with tympanites, and picking at the nose with tremulous fingers, had been watched for.

During an epidemic of this disease the eye becomes so much accustomed to the salient features of each particular case, that often a very correct diagnosis can be made without asking a single question, and so it ought to be of many other diseases. As the *tactus eruditus* serves the surgeon in detecting the fluctuation of pus in deep-seated parts, and the first blush of hectic in all its importance is immediately scanned by his keen and sagacious eye, so likewise should the physician be prepared with the learned touch and the learned glance in recognising many of the various phases which internal diseases assume ; and though I would not go so far as to profess to read a man's character from the appearance of the lobes of his ears, or to stamp a man a drunkard because he possessed a soft silky hand, and displayed some lividity about the nose, yet I am persuaded that, as a rule, nowadays, we waste a good deal of energy in searching after "facts" in our physical diagnosis, which is apt to make us too exacting, if not less thoughtful, and that in consequence we do not give sufficient credit to our forefathers, who relied almost entirely upon observation in their diagnosis, and upon their empiricism in their treatment of diseases.

It would be interesting to know what results were obtained when the red coral and bramble were employed in diarrhœa, turmeric as a specific in jaundice and dropsy, earth-worms "for cooling and cleansing the viscera," and bruised scorpions as an application for healing "the wounds which they themselves have made;" or the following famous pectoral drink of Fuller, which "will wonderfully correct and sweeten a thin sharp blood, which is apt to produce hectic heats, and irritate the membranes and glands of the bronchia and parts adjacent:"—

"℞ Radicum chinæ, ʒiv.
„ sarsaparillæ.
„ symphyti majoris.
„ glycyrrhiz, ana, ʒii.
„ iridis Florentinæ.
„ enulæ camp., ana, ℥i.
Rasuræ eboris.
„ cornu cervi.
Santali citrini.
„ rubri, ana, ʒss.
Linguæ cervinæ.
Rutæ murarine.
Hederæ terrestris.
Scabiosæ, ana, ɱiv.
Seminum anisi, ℥ii.
Passularum solis, lb. ss.
Præparentur
pro cong., iv."[1]

Though we at the present day may smile at such combinations, no doubt but that one hundred years hence our own pharmacopœia will appear just as absurd to those who come after us, as Dr Alleyne's appears to us. There were great physicians in those days, whose fame could not have rested upon their knowledge of therapeutics, or their power of curing diseases, for it will be admitted that they must have been very deficient in both respects; hence their success probably depended entirely upon their great common sense and judgment, or, in other words, upon their triumphs in prevention and diagnosis.

As an apposite illustration of the teaching of experience and observation, I may be pardoned for relating the following case, which is not done out of a spirit of smartness—for no one is more alive to the importance of a thorough and complete investigation by physical and other means as a necessary preliminary to the successful treatment of diseases than I am—yet, as an example of rough guessing by a visual examination, it is perhaps worth recording:—On a beautiful summer evening towards the end of June 1870, I happened to be reclining upon a bench on the East Cliff at Ramsgate, gazing upon the Goodwin Sands, and wondering at the tremendous and terrible treasures deposited there, when I observed a man addressing a gentleman some twenty yards off, evidently seeking for alms. Though I could not exactly hear all that passed between them, I noticed that the man's conversation was spasmodic, and that he coughed a little after uttering two or three sentences; and by his manner I could see that the gentleman rebuked him; so he came on towards me. I watched his approach, his appearance, and step; he was a tall thin man, with round shoulders and a sunken chest, about twenty-five years of age; very pale and anæmic, with

[1] *A New English Dispensatory*, by James Alleyne, M.D. London, 1733.

prominent cheek-bones and lustrous blue eyes. He breathed quickly, and inspired almost between each short sentence he uttered. On accosting me, instead of giving him a direct reply, I hazarded the question—When did you spit blood last? He appeared quite startled, and replied, "I spat blood a short time ago, sir, when I was in the Brompton Hospital, from which I have been discharged as incurable." Whether this was true or not, I had no means of knowing; but I listened to his chest and found cavernous respiration on left side below the clavicle, and moist rattles with prolonged respiration over a great portion of both lungs, flattening on both sides, with that almost pathognomonic sign of faintness on percussion in the left infra-clavicular region. A few more questions satisfied me that he was subject to night-sweats, and more or less to diarrhœa, which left no doubt upon my mind that he was in an advanced stage of phthisis,[1] and probably entering into the last stage of that terrible disease. We soon parted good friends, and I watched his tall gauntly figure and tottering gait until he vanished from my sight for ever.

ARTICLE VII.—*Disease of the Fourth Ventricle of the Brain, with Glycosuria; Paralysis of the Fifth and Seventh Cranial Nerves on the Left Side; Paralysis of the Glosso-Pharyngeal and ultimately Pneumogastric Nerves; Disease of the Right Optic Thalamus and Gyral Softening with Partial Paralysis of Sensation and Motion in the Left Arm and Leg, etc.; Death; Necropsy.* By ALEXANDER MORISON, M.B. Edin., Honorary Medical Officer to the Holloway and North Islington Dispensary, London.

J. B., aged 49 years, a German Jew and commercial traveller, came under my care on the 7th October 1874, in consequence of his suffering from excessive urination, and on account of various nervous symptoms to be detailed hereafter. His family history was excellent. He was the son of parents who had attained a good old age, and, with one exception, his brothers and sisters are healthy people—the exception being a brother aged about 50 years, who recently showed symptoms of diabetes. His children, seven in number, are likewise in good health. When seventeen years of age the patient contracted a hard chancre, and subsequently exhibited a well-marked secondary eruption. Since then, however, he has enjoyed good health. About eight years before I saw him, his urine having for some time previously been "loaded," he had an attack of nephritic colic, and passed a calculus of considerable size *per urethram*. Since about a year after this event his urine has invariably been clear, never turbid on a single occasion. Two or three years, he cannot state precisely which, before coming under my care, he began to urinate too copiously, having to do so about a dozen times during the day and six or eight times during the night, without any evidence of local urinary disorder.

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[1] Disease of the heart, or aneurism of the aorta, might have given rise to symptoms similar to the outward signs noticed in this case, but the general appearance was more indicative of phthisis, which is more easily stated than explained.

About two years ago, after exposure to the sun, reflected through a skylight, he felt a "prick" in his head, so distinctly, that he looked up to see whether anything had fallen upon it. He next found that he could not use his right hand in writing, and that when he attempted to sign his name, he wrote a succession of initial letters, without proceeding farther; his friends also noticed his articulation was indistinct, and his right arm and leg soon became, though not completely, paralyzed. He recovered from this attack in eight or ten days, and his wife affirms that it is only since this event that he has urinated excessively. A fortnight before coming to me he felt a numbness in his left arm and hand, together with a "prickling" sensation, during what he calls a bilious attack. This condition persisted till he came under my notice. Twenty-four hours after these sensations were felt, the left leg down to the knee, and later down to the foot, also became numb and tingled. When combing the hair, the left half of the head also felt, and continues to feel, distinctly numb, as compared with the right half. The left deltoid region feels cold even when well covered, though warm to the hand. The numbness and tingling of left arm and hand have continued troublesome, the latter sensation being particularly felt at the tips of the fingers, which are actually painful on pressure. On examination, besides satisfying myself of the presence of these nervous phenomena, I determined that his urine, in addition to being increased in quantity, was of a clear amber colour, and had a specific gravity of 1040, and an acid reaction, and that while it contained neither urates, phosphates, nor albumen, Trommers' test revealed the presence of sugar. His thirst was not excessive, and his appetite fair, though he stated that he sometimes had a difficulty in swallowing. The tongue was clean and the bowels constipated. He also said he was subject to what he calls bilious attacks, with vomiting. He had no lung or heart disease, but it appeared he had for many years been extensively covered with pityriasis versicolor on the chest, abdomen, inner side of the thighs, the upper arms, and slightly on the flexor surface of the forearms. Bromide of potash was prescribed, and he was put upon the usual diabetic diet *for a time*. The patient continued under my care with little intermission from the above date till December 1875; after which he did not consult me professionally till November 1876, though I occasionally happened upon him in the street and noted his condition generally; after an interval of some months, during which I lost sight of him entirely, I was asked to visit him the evening before his death in June 1877. During the above period I have taken more or less copious notes of his condition, but shall summarize these observations under the following heads:—

1. The state of the urine; 2. The nature and progress of the nervous phenomena; 3. The nature of any important symptoms affecting the other systems; 4. Any noteworthy effects of treatment; 5. Mode of death; 6. A report of the post-mortem examination; and 7. Remarks upon points of interest in the case.

Urine—Quantity passed in Twenty-four Hours.—Taking two pints a day as the normal average of urinary secretion, the quantity of the patient's urine while under observation, as judging from a series of careful measurements, has never been much above that of health, and the data from which this conclusion is drawn are, I am satisfied, correct, notwithstanding the frequency of micturition when the patient first came under observation. The greatest quantity recorded as having been passed in twenty-four hours is seventy-three ounces, the lowest forty ounces, and the average derived from a continuous estimation of the quantity passed during the first seventeen days, while under notice, was fifty-six ounces a day. The average consumption of fluids (not estimating the watery constituents of solids) during the same period was fifty-nine ounces a day.

Specific Gravity.—The highest specific gravity noted was 1040, the lowest 1017, and the average struck from 37 estimations was 1032. The specific gravity was highest after a meal, and gradually diminished during fasting; thus a specific gravity of 1030 at 11 P.M., on one occasion, had fallen to 1020 by 7 A.M., on the following morning. 1020 was not an unusual specific gravity for the urine first voided in the morning, before breakfast. Urine having a specific gravity of 1030 when passed, rose to 1040 when allowed to cool. Saccharine articles of food invariably raised the specific gravity of the urine.

Colour.—Clear amber yellow.

Reaction.—Invariably acid.

Chemical Examination.—Never contained urates or phosphates in excess, nor albumen. *Sugar* was present even when the specific gravity of the urine was low.

Microscopic Examination.—Lozenge-shaped and rosette crystals of uric acid were frequently seen, as also yeast corpuscles.

Nervous Phenomena:—

1. *General.*—A general feeling of weakness and incapacity for exertion.

2. *Special.*—A sense of numbness involving the left half of the body, including the head, face, and neck, together with a "pricking" or "tingling" sensation in the left arm, especially felt at the tips of the fingers of the left hand, which were, as I have stated, actually painful to touch. The left shoulder likewise *felt cold* to the patient, as compared with the right. This left-sided numbness improved temporarily, but again became aggravated, and passed

into stiffness and immobility of the left side of the face, with loss of expression on that side, inability to whistle, and an apparent diminution of the left eye from a relaxation of the orbicularis palpebrarum; but the patient was able to close the left like the right eye, and during sleep the lids remained closed. The *left* angle of the mouth was higher than the right, and when a row of upper false teeth were removed, seemed to become still further displaced to the left. There was a loss of taste and sensation in the left half of the cavity of the mouth. Food was in the habit of lodging between the gums and cheek on the left side, and remained there till pressed within reach of the tongue by the finger on the cheek. His left arm was noticed for a time to waste and become thinner than the right, but this appearance passed off, so that latterly there was no appreciable difference between the two. There was, at the same time, progressive loss of power in the left arm and leg, which, however, never became absolute. After the left arm became partially paralyzed, the temperature of the left hand, as ascertained on two occasions, was higher than that of the right. This, however, the patient states, is only exceptionally the case. For a considerable length of time the patient also complained of *pain* about the *humeral* attachment of the *left deltoid* muscle, which, though little tender on pressure, was aggravated by moving the arm. His usual position when asleep was with the forearm flexed on the upper arm and closely adducted to the side; while the arm was kept in this position he felt no inconvenience, but when it was again extended, pain returned more or less severely. This pain passed off as the loss of power in the arm increased. Both pupils were equal, but sluggish, and decidedly *contracted*. The tongue could be *protruded* and without apparent deviation to one side or the other, but the left half seemed to be *smaller* than the right half, and the left uvulo-tonsillar arch of the soft palate was also smaller than its neighbour to the right. The patient likewise complained of headache, principally *occipital*, sometimes shooting up the left side of the head, and at others up the right side; and also of vertigo. His indistinctness of utterance became more evident as time went on, and though his intelligence remained unimpaired throughout, his memory was latterly remarked to be deficient.

Symptoms pertaining to the other Systems.—The patient occasionally complained of a "gnawing sensation" in the epigastrium. His appetite was at first good, though not voracious, and he was never abnormally thirsty, except for a short time when he was first under observation, when he used to rise during the night to drink water; even then he could not be said to be *excessively* thirsty. His appetite, however, diminished during the progress of the case, and is noted in November 1875 as having been bad. The food he latterly relished most, and on which he in a great measure subsisted, was oat-meal porridge. He had occasional attacks of what he termed bilious vomiting, but which I have suspected to have had a cerebral rather than hepatic origin. His tongue latterly always felt "scraped," and had a soft, white, scanty and patchy fur, being here and there almost denuded of epithelium. It was most thickly covered towards the posterior portion of the dorsum.

Physical examination of his heart and lungs indicated perfect health, but in November 1876, after his left arm had for some time been partially paralyzed, the radial pulse is noted as having been weaker at the left than at the right wrist. His bowels, which had throughout been more or less costive, became more and more sluggish, and aperients gradually lost their wonted efficacy, while the evacuations became peculiarly dry. Sexual desire failed altogether during the last year of life, and had been fast diminishing for some time previously.

Treatment.—Circumstances supposed to result from the use of various agents employed as remedies.

1. *Effects on Urine.*—It has already been mentioned that the specific gravity of the urine was diminished by restricting the use of saccharine articles of diet, and that the reverse was the consequence of an opposite course. The specific gravity of the urine was also observed to diminish after arsenic in small doses, or arsenic together with dilute phosphoric acid had been taken for a time, and likewise after the use of iodide of potash. (The patient's own sense of wellbeing was greatest when the specific gravity of the urine was diminished from any cause.) The variations in the quantity of urine while taking any medicine or system of diet were not important, as the average of health was never greatly exceeded.

2. *Effects on other Symptoms or Conditions.*—The left-sided feeling of numbness was relieved for a time after taking bromide of potash. The severe pain complained of about the insertion of the left deltoid muscle, and described elsewhere, was for the time distinctly alleviated by electro-galvanism of that muscle, and of the left arm generally. The abolished sexual appetite was transitorily roused after a short course of dilute phosphoric acid. It may be incidentally mentioned that the widespread pityriasis affecting the patient's skin was not specially treated by local parasiticides, but was invariably observed to fade in a remarkable degree after taking arsenic for a considerable length of time, and gradually to return on abandoning that remedy. Finally, it is interesting to note that, though the patient had regularly taken 10 minims of belladonna three times a day for six weeks before his death, his pupils were *in no way dilated* by that drug, but remained contracted throughout.[1]

Mode of Death.—I was asked to see the patient at 9 P.M. on the 15th of June 1877, and was told that he had for some time suffered more or less from severe pain, most acute at the lower end of the sternum, but shooting sharply from back to front as it were through the centre of his chest. The pain was not continuous, but had latterly been agonizingly severe when present. When I saw him he was absolutely free from pain. With the exception of a somewhat accelerated and feeble heart's action, there was no indication of disease in the circulatory system, and physical exploration of the lungs, etc., could find nothing amiss in them or the adjacent thoracic structures. A turpentine liniment, to be used occasionally, had been prescribed for the same symptom a few days previously at the German Hospital (where he had also been told his heart and lungs were healthy), which would seem to indicate that the physician who examined him there must have excluded the usual causes of such severe thoracic pain (aneurism, pleurisy, etc.) I prescribed a belladonna plaster to be applied to the most frequent seat of pain, and left him satisfied of the neuralgic basis of the symptoms. Some time after I had seen him the pain returned, and, increasing in severity, seems to have become truly agonizing, and deserving the title of "angina pectoris;" he passed a restless night, pacing up and down his bedroom, with, as his wife said, "beads of perspiration standing on his forehead," until about 7 A.M. on the 16th, when he complained of a sense of impending death, and went to bed, where he died, it is said, "slightly convulsed" half an hour later. The evidence of convulsion, however, is not satisfactory, as "turning black in the face" was the only sign observed by his relations as the immediate precursor of death.

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[1] For exact information as to the quantity, frequency of administration, and length of time for which belladonna was employed, I am indebted to Dr Altdorfer, house-surgeon to the German Hospital at Dalston.

Post-mortem Examination of the Head[1] twenty-nine hours after death.—Permission was only granted to examine the head, and rabbinical prejudice prohibited the removal of any portion of the brain for microscopic examination. The latter was therefore conducted on the spot, and in the absence of freezing apparatus, etc., was of necessity meagre and unsatisfactory. The body was well nourished. There was some post-mortem lividity. Rigor mortis was well marked in the limbs and trunk. The bones of the *skull* were thick, and near the left frontal eminence there was an exostosis about the size of a pea. The dura mater was likewise somewhat thickened, and firmly adherent to the calvarium in both parietal regions, so as to tear on attempts being made to detach it. Owing to this adhesion, a longer time than usual was consumed in removing the skull-cap, and a good deal of fluid blood escaped while I was thus occupied, so that the sinuses of the dura mater were found to be empty on examination. The arachnoid was opaque and decidedly milky. The pia mater was engorged both as to its large veins and small vessels, and the minute injection had an arterial hue. At a few points on the hemispheres there appeared in addition to be some superficial extravasation, the convolutions being stained thereby.

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[1] J. G. Lidbetter, Esq., M.R.C.S., of Canonbury, and my assistant, Mr Stephen Orpin, were present at the necropsy.

The brain itself was well developed and closely convoluted. The white and gray matter of the hemispheres was to the naked eye healthy, with the following exceptions: a few convolutions near the great longitudinal fissure (I regret that I cannot more minutely specify which) were softened, and the microscope showed the softening to be pathological. In the white matter of the right hemisphere, about the site of junction of the temporo-sphenoidal and occipital lobes, there was a small cyst or cavity rather less than a split-pea in size.

The corpus callosum was healthy. The lateral ventricles contained no excess of fluid, and superficially were normal. The choroid plexus was not engorged. The corpus striatum on both sides was healthy on section. The left optic thalamus was likewise healthy, but on cutting into the right optic thalamus, two small cysts, the largest about the size of a pea, were discovered, one below the other, and situated at the upper and posterior part of the thalamus, rather less than four lines from the lateral ventricular surface of the ganglion. The so-called *fifth* ventricle showed nothing abnormal, nor did the *third*. The pineal gland was about the size of a small bean, and contained a mass of *acervulus cerebri*, irregular in shape, and about the size of a split-pea. The corpora quadrigemina appeared to be healthy, as also did the cerebellum, though its membranes were in the same state as those of the cerebrum.

The *floor of the fourth ventricle* had a coarsely granular aspect, and the granulations themselves had a clear gelatinous appearance and some elastic property, for the larger were seen to start up when relieved from the pressure of the edge of a razor passing over the surface. This granulation extended over *three-fourths* of the surface of the floor, the *upper* fourth being little if at all affected, while the condition was most evident over the lower *third*. One granulation larger than all the rest sprang from the floor at a point in the *left* calamus scriptorius, a few lines from and nearly opposite the fourth ventricular margin of the corresponding posterior pyramid. (Woodcut.)

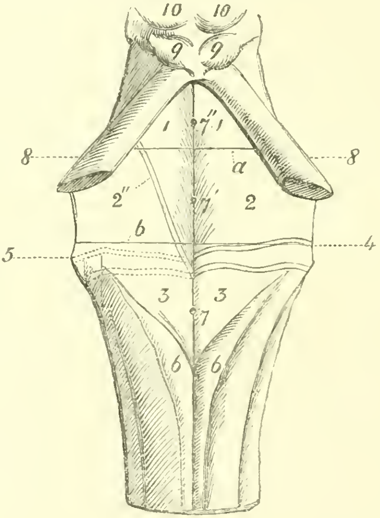
The *course of the original fibres of the acoustic nerve on the right side was clearly defined*, as also was the course of a fibrous bundle passing from the left upper corner of the floor downwards and inwards to the central groove. *The site of the acoustic fibres on the left was occupied by granulations.* On looking at the surface of a section passing from the floor of the fourth ventricle through the underlying pons and medulla, the gelatinoid granular layer showed an uneven or irregular *foundation* as well as surface, leaving the impression, that the floor of the fourth ventricle bereft of gelatinoid material would have the appearance of a series of small cavities.

On section, the corpora quadrigemina, pons, and medulla oblongata, were healthy to the naked eye. At the base of the brain the nerves had a normal consistence and healthy look, as also had the bloodvessels, with the exception of the basilar artery, which exhibited a minute speck of atheroma.

Microscopic Examination.—The following three points alone were satisfactorily determined under the circumstances:—1. A softened hemispheric convolution showed capillaries with well-marked fatty degeneration of their walls. 2. The nerve structures surrounding the cyst in the white matter of the posterior section of the right hemisphere was much disintegrated, the nerve tubes being filled with oil globules. 3. The granulations in the floor of the fourth ventricle consisted of *primitive nuclei*, and here and there blood vascular structure seemed to form the centre of a circle, the space between which and the circumference was occupied by the same primitive cells or nuclei. Deeper sections in this important region were attempted, but without yielding any reliable result.

Remarks.—Though it is true that no satisfactory pathological basis has been demonstrable in many cases of diabetes, it is no less true that in a considerable number of cases concomitant lesions of the central nervous system of so remarkable a character have been discovered as to warrant the supposition that these stand in a close relation to the abnormal state of the urinary secretion. At a meeting of the Royal Medical and Chirurgical Society, held on 8th February 1870, Dr Dickinson, of St George's Hospital, read a paper detailing the results of a careful examination of the organs of five diabetic patients. While the only constant change found in the viscera was epithelial accumulation in the liver and kidneys, the morbid changes described as having been met with in the brain and spinal cord "presented a remarkable sameness in all the cases," and were chiefly characteristic of a perivascular degeneration of brain tissue. Dr Lockhart Clarke, who took part in the discussion raised by the paper, also stated that he had seen in a case of diabetes degeneration of the floor of the fourth ventricle, with erosion of the calamus scriptorius and destruction of the nuclei of the vagus (*Med. Times and Gazette,* 19th March 1870). In Dr Dickinson's cases, while the changes were met with in every part of the spinal cord and encephalon, "they attained their greatest development in the medulla oblongata and pons Varolii." In a paper entitled, "On the Nervous System in Diabetes," which was published in vol. xxii. of *Guy's Hospital Reports*, Drs Taylor and Goodhart categorically combat all the positions maintained by Dr Dickinson in his paper already referred to, and reiterated in his monograph on diabetes. These gentlemen carefully examined the brain and spinal cord of nine patients who had died of diabetes mellitus, and failed to detect the changes described by Dickinson. Some cavities described by the latter as pathological, they consider normal conditions. In support of their unfavourable verdict they adduce the testimony of Drs Wilks and Moxon (*Path. Anat.*, pp. 636 and 637), of E. Külz (*Beiträge zur Path. u. Therapie des Diabetes mellitus*, Marburg, 1874), and of W. Müller of Jena (*Beiträge zur Path. Anat. des Rückenmarks*, Lepsig, 1871; dritte Beobachtung, p. 41). These researches, though valuable as proving that expert pathologists sometimes fail to detect aught amiss in the nervous system of diabetic patients, neither compromise the accurracy of Dr Dickinson's careful researches, nor disprove that cases may be met with whose investigation will be as favourable to Dr Dickinson's views as theirs have been adverse.

The present case, though unfortunately deficient in histological details, evidently belongs to that series met with by Dickinson, and referred to by Lockhart Clarke in the discussion mentioned, while it also presents some points of interest peculiar to itself.



WOODCUT.—A *diagrammatic* sketch of the fourth ventricle of the brain and its neighbourhood, from a rough drawing of the recent specimen made at the necropsy.

a and *b*, two imaginary lines dividing the floor of the fourth ventricle into three portions; 1, the uppermost was normal; 2, 2, the middle, showed granular gelatinoid degeneration; 3, 3, the lowest (calami scriptorii), exhibited this appearance in the highest degree; 4, lines representing the striæ of the acoustic nerve on the right side; 5, dotted lines marking the site of the obliterated acoustic on the left side; 6, 6, posterior pyramids; 7, 7^1, 7^2, corresponding respectively to Bernard's glycosuric, polyuric, and albuminuric punctures in the rabbit; 8, 8, superior peduncles of the cerebellum; 9, 9, 10, 10, corpora quadrigemina; 11, an exposed bundle of nerve fibres ascending from the pons towards the left crus cerebri.

Claud Bernard, in his well-known experiments for the artificial production of diabetes by puncture of the floor of the fourth ventricle, not only demonstrated the presence of sugar in the urine of animals thus treated, but also proved that puncture at different points of the floor was followed by different results. Thus, puncture low down between the roots of the auditory and pneumo-gastric nerves was merely productive of glycosuria, higher up of polyuria, and yet higher of albuminuria (Woodcut). While admitting the very probable fallacy of concluding without absolute histological proof, that the glycosuric may be affected to the exclusion or only partial implication of the polyuric area in any given case, it is nevertheless of interest to note that in the present instance, while polyuria was at one time only present to a limited extent, and ultimately disappeared, glycosuria was persistent, and albuminuria altogether absent; and that, while such was the case, the morbid state of the floor of the fourth ventricle was most apparent in its lower segment, becoming less evident towards the upper part, while the upper fourth was, so far as the naked eye could detect, healthy. It is true that portions of the brain other than the medulla and pons were likewise diseased in this case, and that diabetes has been known to result from apoplexies and injuries of the brain not *immediately* affecting these parts; but the bulk of evidence hitherto accumulated would seem to ascribe to this region the greatest share in producing the disease; while injuries and diseases of other parts probably operate by influencing it secondarily. That the brain disease, whether affecting the encephalon generally, or the fourth ventricle particularly, or both combined, stood in a causal relation to the diabetes in this case, seems probable from the fact that the diabetic symptoms are said to have been first noticed after a transitory attack of hemiplegia. That that transitory hemiplegia was the result of a limited cerebral hæmorrhage in consequence of degeneration of the bloodvessels, is rendered probable by the discovery of scattered crystals of hæmatine and fatty capillaries after death, and in this connexion we cannot overlook the fact that the patient had at one time been thoroughly inoculated with the syphilitic virus, the ultimate consequences of which may possibly be recognised in the diseased vessels and morbid deposits (gummatous?) described in the account of the autopsy. Finally, though his general family history, so far as can be ascertained, is good, one hesitates to exclude altogether an hereditary predisposition, when we learn that a brother-german of the patient is at present suffering from diabetes.

The nervous phenomena detailed elsewhere and requiring explanation may be shortly stated to be—

1. The progressive palsy of motion and sensation on the left side, together with the pain and cold shoulder felt in the left arm, which was for a time a prominent symptom.

2. The partial loss of motion and diminution of sensibility in the left side of the face, and the corresponding half of the cavity of the mouth, including the tongue.

3. The apparent atrophy of the left half of the tongue, with relaxation or palsy of the left half of the soft palate, and the difficulty in swallowing.

4. The contracted state of the pupils of both eyes.

As the *corpora striata* were apparently healthy, the *motor symptoms* falling under the first of these headings were probably the result of softening in the right hemisphere, due to imperfect nutrition of the part, as may be concluded from the presence of such softened portions, together with the diseased condition of the small blood-vessels, etc.

The *sensory phenomena* exhibited by the left arm and leg, at first of tingling, with pain at the insertion of the deltoid, and the sensation of *coldness* of the *left shoulder*, giving way in time to greater impairment of sensation, and disappearance of the deltoid pain and coldness, may reasonably be ascribed to the state of the *right optic thalamus*. An irritative condition, possibly caused by a limited hæmorrhage or tertiary syphilitic deposit, might, in a great sensory ganglion, give rise to the sensory phenomena mentioned; while the pain in the deltoid may have been centrifugal from the optic thalamus affected, or due to tonic contraction of the muscle—an example of local spasm caused by a central lesion. Moreover, such spasmodic contraction may have caused the pain felt at the insertion of the muscle and on raising the arm, and possibly also a diminished blood supply to the part, which would speedily be followed by a sense of cold to the patient, though such might not be apparent to the hand of another. To the central irritative condition passing into one of more complete softening with sundering of the continuity of some bundles of nerve fibres, we may reasonably attribute the cessation in the painful phenomena, and the supervention of more decided numbness.

An examination of the paralytic symptoms referable to *disease of the cranial nerves* is of great interest in this case, in its bearing upon that knotty point in cerebral pathology—the precise cause of paralysis of the buccinator muscle in hemiplegia and other forms of brain disease. Unfortunately, however, it tends rather to confuse both views than to substantiate the correctness of either that which ascribes the condition to paralysis of the buccal branch of the fifth nerve, or that which refers it to a like state of the portio dura of the seventh; for, both these nerves were undoubtedly implicated, though, as is not unfrequently the case in cerebral disease, the paralytic condition of the latter was not so distinct as it probably would have been had the paralysis been peripheral.

The first, second, third, fourth, sixth, and ninth nerves on the affected side were healthy in their distribution, and, so far as could be judged, in their course and origin. The senses of smell and of sight were normal; there was no paralytic or other affection of either the straight or oblique muscles of the eyeball, and the tongue could be protruded, and without lateral deviation; the auditory portion of the seventh nerve, we must conclude, had escaped *destruction*, as the patient said he could hear well with both ears; but I regret that I did not make a more minute physical examination of these organs by speculum, bag, and tuning-fork, although, except in the case of absolute deafness, the evidence afforded by the tuning-fork would have been unreliable, as a very little aural catarrh, old or recent, would have altered the tone of the vibrations in one or other ear, while the paralysis of the inferior maxillary nerve, whence the nervous supply of the tensor tympani is derived, would likewise have complicated diagnosis.

Although that characteristic facial distortion which invariably results from complete paralysis of the facial nerve was absent, there can be no doubt that the *partial* relaxation of the orbicularis palpebrarum, together with the loss of expression on the affected side, and the indistinct pronunciation of words, were quite sufficient evidences of a serious inroad by disease upon the origin of the portio dura.

Testimony to paralysis both of the sensory and motor divisions of the great fifth nerve is overwhelming when we consider the numb face, and insensible mucous membrane lining the left cheek, together with the entire loss of taste in the left side of the tongue, the difficulty of chewing on that side, and the tendency food had to lodge in the same position. Loss of taste over the posterior as well as anterior portion of the left side of the tongue, together with hampered deglutition, notwithstanding a perfectly mobile tongue, conclusively prove implication of the glosso-pharyngeal division of the *eighth* nerve. The comparative shallowness of the left uvulo-palatine arch and the circumstance previously noted, that, while the tongue could be protruded perfectly straight, the left half of that organ seemed smaller than the right, probably implied paralysis of those branches of the portio dura which form connexions between it and several other nerves in its course through the petrous bone, in addition to the otherwise amply-demonstrated paralysis of the glosso-pharyngeal nerve.

But, whereas in many cases of hemiplegia with facial palsy, for which some have blamed the fifth, and others the portio dura of the seventh nerve, there has not been any local disease beyond that causing the general hemiplegia, we have here a condition which goes far to explain the facial phenomena independently of the conditions producing the paralytic symptoms in the arm and leg.

I have already described the character and extent of the degenerative disease in the floor of the fourth ventricle, but as circumstances obliged me to make a hurried and imperfect microscopic examination of a part which might well have occupied the attention of a pathologist for days, I cannot speak positively of the precise extent of the disease at the fountainhead of so many important nerves. Nevertheless, that the floor of the ventricle was more extensively diseased on the left than on the right of the median furrow, is not only proved by the unilateral paralytic phenomena, but also by the obliteration of the original fibres of the auditory nerve on that side, while they were quite apparent on the right. Now, we know as an anatomical fact, that the motor and sensory roots of the fifth cranial nerve, together with the glosso-pharyngeal and pneumo-gastric nerves—and, some[1] maintain, the portio dura as well as mollis of the seventh—undoubtedly arise in the floor of the fourth ventricle, and in that portion of it described as having been most diseased; and these, moreover, are the nerves to which the clinical history points as having been chiefly implicated. On the other hand, the anatomical origins of the first, second, third, fourth, sixth, and ninth nerves, which the clinical history indicated as healthy, are situated in portions of the brain which, with one exception (the right optic thalamus), appeared normal to the naked eye on post-mortem examination. That the pneumo-gastric nucleus was ultimately invaded, seems probable, not only from the implication of the glosso-pharyngeal, but also from the patient's *mode of death*. For, in the absence of organic disease of the heart, and other intra-thoracic viscera (and, as I have stated, such could neither be detected by myself nor by a physician at the German Hospital), one must ascribe a neurotic origin to the intense angina, which only appeared a few days before the patient's death, at first interruptedly, and at last during the night preceding his decease, with persistent severity until he died apparently asphyxiated. Excluding as a frivolous suggestion what we usually term intercostal neuralgia or pleurodynia, what remains in the face of the post-mortem appearances, but death from invasion of the "*vital nucleus?*"

The last point I shall dwell upon is, the contracted state of *both pupils without photophobia, and their indilatability by belladonna*—a circumstance not very easy of explanation, but a symptom of considerable importance as a means of diagnosis.

The anatomist teaches us that the nerve supply of the iris is derived from three sources, which coalesce in the lenticular ganglion, from which they emerge as the ciliary nerves, to control that muscular diaphragm, with the help of the long ciliary twig from the nasal branch of the ophthalmic division of the fifth nerve. The sensory fibres, we are likewise told, are derived from the ophthalmic division of the trigeminus, the motor from a subdivision of the oculo-motorius, while sympathetic fibres are contributed by the cavernous plexus of that system. Oehl, Rosenthal, and some others, state, however, that motor fibres supply the *dilator iridis*, which may be traced to an origin in the Gasserian ganglion.[2]

The physiologist informs us further, that division of the fifth nerve, or its ophthalmic branch, induces contraction of the pupil, loss of sensibility of the conjunctiva, and inflammation going on to destruction of the eye. Division *behind* the Gasserian *ganglion*, moreover, is said to be followed by these results, either in a much less degree, or not at all (Dalton's *Human Physiology*, p. 439, ed. 1867).[3]

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[1] Phillipeaux and Vulpian, Quain's *Anat.*, vol. ii. p. 587, 7th ed.

[2] Herman's *Physiology*, by Gamgee, p. 378.

[3] I regret that I cannot find among my notes a record of the sensory condi-

We know that division of the sympathetic also results in contraction of the pupil, conjunctivitis, and the sequelæ of inflammation. On the other hand, ptosis, outward squint, dilatation, and insensibility of the pupil to light, are mentioned as the consequences of division of the oculo-motorius.[1]

Finally, both the physiologist and physician tell us that the pupil is dilated by the internal administration or topical application of belladonna, and its alkaloid, but neither agree as to the *modus operandi* of this mydriatic. Direct paralysis of the muscular iris, paralysis of branches of the oculo-motorius distributed to the circular fibres, stimulation of the sympathetic nerve-supply to the radiating fibres, and the prevention of turgescence of the iridal bloodvessels, have all been suggested in explanation of this phenomenon.[2]

From the results of experimental physiology alluded to, however, we may conclude that the motor energy of the radiating or dilating fibres of the iris is dependent on nerves derived from the trigeminus, or sympathetic, or both, while the circular or contracting fibres are controlled by the oculo-motorius.

Now to account for the contracted and indilatable pupils we are immediately concerned with, we cannot urge a paralytic condition of the fifth or sympathetic nerves, leaving the third unfettered to exert its contracting influence; for, besides the absence of the disintegrating changes usually wrought in the eye under such circumstances, and notwithstanding the presence of a paralytic fifth nerve on the left side, the pupil on the right side, on which the nerve was healthy, was in the same state of rigid contraction as its neighbour in the left eye.

Again, though the transitory rise in temperature on the left side, and the occasionally inequality of this symptom in the two halves of the body, was evidence of vaso-motor disturbance, most probably sympathetic, it was but transitory and unilateral, while the state of the pupils was one of *permanent*, *equal*, and *bilateral* contraction.

The fact that disease in and about the pons Varolii is usually accompanied by contraction of the pupils leads us in this direction for an explanation of that condition in the present case. It is true

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tion of the eyeball, but from the general paralysis of the fifth nerve it is probable that sensibility was impaired here as elsewhere, notwithstanding the absence of disease of the media and coverings of the globe of the eye. This exemption from disease may be accounted for, either by the protection afforded to the eye by the partial approximation of the lids, or by the fact of the disease paralyzing the trigeminus being seated behind the Gasserian ganglion. It is probable that both these circumstances contributed to this fortunate result. In this connexion the following papers are worthy of perusal:—"Two cases of Tumour of the Pons Varolii," by Dr Clifford Allbutt (*Trans. Path. Soc. London*, vol. xix. p. 20); "Fibroid Tumour of the Middle Fossa of the Base of the Cranium," by Dr Heslop (*Med. Times and Gazette*, vol. i. p. 442, 1868); and "Tumour on the Trunk of the Fifth Nerve, where it issues from the Pons," by R. Beveridge, M.B. (*Med. Times and Gazette*, vol. i. p. 199, 1868).

[1] Herman's *Physiology*, by Gamgee, p. 348.

[2] Scoresby-Jackson's *Materia Medica*, p. 492, 1875.

that the anatomical sources of the oculo-motor nerve (Quain, *loc. cit.*), so far as they were accessible to inspection by the naked eye were, apparently healthy, yet we must remember that the floor of the fourth ventricle is the dorsum of the pons, and that it exhibited extensive superficial disease; and further, that throughout the progress of the case the symptoms were those of an irritative lesion, causing contraction or spasm, and passing on to paralysis without pain (*i.e.*, cessation of the irritative impulse). For example, the stiffness of the left side of the face resulted in loss of sensibility and masticatory power on that side, and the same course was likewise pursued by the symptoms in the arm and leg. As the degenerative disease invaded the original fibres of the fifth and seventh nerves more and more, until *they* were cut adrift from their moorings, and paralysis ensued, so we can see in the diseased ventricle a condition sufficient *to irritate the third nerve, but not extensive enough to destroy its connexions, and in the contracted pupils recognise a parallel to the stiff face and sore arm, which might have passed into palsy and dilated pupil, had the disease progressed farther and been more extensive.* On this supposition, the contraction of the pupil must be regarded as a tonic spasm of the circular overcoming the counteracting influence of the radiating fibres of the iris, the motor activity of which, though not destroyed, may have been somewhat impaired, owing to the more superficial origin of the fibres of the fifth nerve in the pons, and their invasion by the degenerative changes in the floor of the fourth ventricle. Regarded thus, the failure of belladonna to dilate the pupil throws, I would suggest, some light upon the mode in which that drug usually exercises its mydriatic influence. Had the fifth nerve been so paralyzed as to have been insensible to the excitation of belladonna, thus abolishing the function of the dilator iridis, we should have had more undoubted indications of *bilateral* palsy of the great trigeminus, for both pupils were contracted. Again, had the sympathetic been equally inexcitable, we should have had more decided vaso-motor disturbances.

I am therefore inclined to regard this case as affording valuable support to that theory of the action of belladonna as a mydriatic, which attributes the dilatation of the pupil to paralysis of that portion of the nerve-supply of the iris, which is derived from the oculo-motor nerve. We here see doses of belladonna—half a drachm a day, administered for six weeks, and excessive for the production of mydriasis under ordinary circumstances—utterly incapable of overcoming the tonic spasm of the circular muscle of the iris, because, I presume, they failed to subdue the irritative influences transmitted from the floor of the fourth ventricle, the subjection of which must probably have been a necessary preliminary to paralysis of the nerve, and dilatation of the pupil.

(*To be continued.*)

ARTICLE VIII.—*The Dull Wire Curette in Gynecological Practice.*

By PAUL J. MUNDÉ, M.D., Assistant Surgeon to the New York Women's Hospital; Fellow of the New York Obstetrical and American Gynecological Societies.

SINCE the discovery by Récamier in 1850[1] of the presence of "intrauterine fungosities" as a cause of metrorrhagia, and his recommendation of the curette with subacute edges known by his name for their removal, the majority of gynecological text-books have mentioned these growths and their operative treatment. Only in Meigs (1851), Churchill (1857), and Hewitt (1872) do I find no reference to the curette, the latter merely speaking of "fungus-like vegetations on the surface" as a cause of profuse menstruation. When I say that all these authors describe Récamier's subacute curette, I would not, however, have it understood that they all recommend or approve of it. Indeed, some authors were so loud in their condemnation, and others so faint in their praise, as almost to abolish the use of the instrument. And no wonder, for Récamier himself reported three cases of perforation of the uterus and death resulting from its use, a misfortune which caused Aran[2] to denounce the curette as a barbarous instrument, which merely shaved off portions of the normal mucous membrane, and was productive of benefit only in those exceptional cases where real vegetations existed, a verdict entirely concurred in by West,[3] and without the extenuating exception by Scanzoni,[4] who curtly dismisses the curette "as an instrument based on entirely erroneous theories, and therefore devoid of all practical utility." On the other hand, men like Trousseau, Nelaton, Maisonneuve, Nonat, and others, principally of the French school, employed and recommended the instrument. The most prominent of recent French gynecological authors, Courty,[5] however, says, that the danger attending its use and the possibility of accomplishing the same result by less perilous remedies (leaving the solid stick of nitrate of silver in the uterine cavity?) have induced him almost wholly to discard it. Notwithstanding this verdict, Nœggerath, as recently as 1871, at a meeting of the New York Obstetrical Society,[6] stated that he had used Récamier's curette about twenty times, and had had no unpleasant results therefrom, although he admits expecting such at any time. He had even performed the operation at his office. At the same meeting, however, Chamberlain reported a case of hysterical tetanus resulting therefrom, in which recovery occurred. Peaslee mentioned a death from collapse, and Nœggerath himself referred to a case of Dr Thomas, in which the patient almost died from the same symptom following the use of the curette. Budd also expressed his disapprobation of the instrument, having seen cellulitis follow its use.

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[1] Mémoire sur les productions fibreuses et les fongosités intrautérines. *Univ. méd.*, Juin 1850.

[2] *Maladies de l'utérus.*

[3] *Dis. of Women*, 3d edition.

[4] *Krankh. der weibl. Sexualorgane*, 1867.

[5] *Traité des mal. de l'utérus*, 1866.

[6] *Trans. N. Y. Obst. Soc.*, 2d May 1871 ; *Am. Jour. Obst.*, vol. iv. 3.

While Barnes, Schroeder, and other recent authors mention Récamier's curette, they do not specially recommend it, but rather warn against its free use. Only Hegar and Kaltenbach, in their excellent work on Operative Gynecology,[1] speak of "the curette of Récamier" as an instrument which (with the sharp spoons of Simon) they have had frequent occasion to use in disease of the endometrium. But the figure given by them on page 264 as Récamier's curette clearly represents, not Récamier's instrument, but that of Marion Sims, to which latter, therefore, the statement of these two authors must be held to apply.

Sims's curette has almost completely supplanted its predecessor, but its positively sharp cutting edges and inflexible steel shank render it an instrument scarcely less dangerous for use in the cavity of the uterus proper than the latter, the injury inflicted by which must have been caused more by its point than its subacute edges. Dr Fordyce Barker tells me that he knows of three cases of peritonitis following the use of Sims's and one that of Récamier's curette. And Thomas, in the last edition of his book published in 1874, seems to restrict the sharp steel curette of Sims to the removal of Nabothian follicles from the cervical canal only; Récamier's instrument he does not even mention. Loombe Atthill, in his practical little book on Diseases of Women,[2] speaks of the curette (Récamier's) as "an unscientific instrument ill adapted to attain the object in view," which has to be employed entirely at random, and therefore must often prove inefficient, as proved by Récamier himself deeming it necessary to cauterize the uterine cavity with nitrate of silver after the withdrawal of the curette. Colucci,[3] in a recent article, wholly condemns the use of the curette (doubtless Récamier's also, for he mentions no name) in endometritis, apparently, however, entirely on theoretical grounds.

Another sharp steel curette with strong inflexible shank, in different sizes, was devised by Simon,[4] but its use was by him restricted to the scraping or gouging of large cancerous growths of the cervix,[5] vagina, rectum, and other cavities, of ulcerating lymphatic glands, carious bone, etc.; but, to my knowledge, he never advised its application to the endometrium itself.

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[1] *Die Operative Gynäkologie.* Erlaugen, 1874.

[2] *Clin. Lect. on Dis. of Women.* Dublin, 1873.

[3] "Della Endometrite," *Il Morgagne*, Jan.–March 1877.

[4] "The Scraping out of Soft Sarcomatous and Carcinomatous Tumours from Cavities of the Body," *Beitr. z. Geb. u. Gyn.*, Berlin, I., 1872.

[5] Mundé, "Treatment of Cancer of the Uterus with the Sharp-edged Scoop, or Curette," *Am. Jour. Obst.*, 5th August 1872.

While the majority of authors thus appear to condemn Récamier's curette as a dangerous instrument by reason of its powerful and inflexible build, it must be equally evident to all familiar with Sims's likewise inflexible sharp steel curette, that its employment is by no means entirely devoid of peril, and that it is, to say the least, in the larger proportion of cases an unnecessarily severe measure, and one likely to produce more injury and be followed by greater reaction than desirable. The immunity from danger, therefore, apparently enjoyed by Hegar and Kaltenbach is rather exceptional, and speaks well for the caution observed during their manipulations. It certainly is a safe rule in uterine surgery to restrict the use of the sharp cutting curettes to neoplasms of the cervix and its cavity, and to employ them in the cavity of the body of the uterus only when the size, dense character, or firm attachment of the growth calls for a powerful instrument, and its dangerous nature justifies the running of some risk in its removal. Under such conditions, the operator may be held guiltless, even though he be so unlucky as to perforate the uterine wall and lose his patient, as happened to Spiegelberg[1] while curetting an encephaloid cancer of the corpus uteri.

Influenced by these considerations, and recognising the need of a safer and equally efficient instrument in the majority of the cases where a curette is required, and furthermore, as he himself told me, warned by the narrow escape above referred to (on which occasion Sims's curette was used), Dr P. J. Thomas devised the dull curette of flexible copper wire described in his work on Diseases of Women, 4th edition, 1874, pp. 273 and 609. Although Récamier's, Sims's, and Simon's curettes are, as stated, mentioned in all the modern text-books on gynecology, only in the inventor's own book, and in a short footnote to an abstract of an article by Olshausen of Halle on "Chronic Hyperplastic Endometritis," prepared by Dr M. D. Mann for the *American Journal of Obstetrics*, November 1875, p. 562, is Thomas's curette described, and I do not think that I am far wrong in assuming that, outside of the United States, that instrument is scarcely known or used. Even here in America its use is chiefly confined to New York and Brooklyn, in which cities our instrument-makers inform me that they sell many Thomas's curettes, while but very few are disposed of in other sections of this country. It must seem that the profession at large have not as yet realized the frequency with which this simple little instrument is required, and the benefits resulting from its use,—benefits so marked and attended with so little risk, as to render the popularization of the instrument, to the exclusion of the ineffectual internal remedies and harsher local measures, highly desirable.

With this object in view, I had for some time contemplated again calling the attention of the profession to it, when a report by Gallard to the Scientific Congress at Hâvre in August 1877[1] met my eye, and confirmed me in my purpose. On that occasion Gallard records his observations on the pathological anatomy, growth, and treatment of vegetations of the uterine mucous membrane, and mentions the case of a woman, sixty-five years of age, with menorrhagia of two years' standing, who, after ineffectual treatment by cold injections, intrauterine injections of perchloride of iron, and Canquoin's paste, was finally cured by curetting the uterine cavity with Récamier's instrument and the subsequent application of Canquoin's paste (chloride of zinc). The curette removed a saucerful (!) of pulpy matter (" d'une sorte de bouillie "), which was nothing else than mucous vegetations. No inflammatory reaction followed the treatment. Basing on this case, Gallard retracts his former verdict, that curetting is "a detestable operation,"[2] and believes that in certain cases the curette may be of real service. Now, when a man like Gallard thinks it worth while to detail a case (called a " remarkable case " by the reporter), the like of which (perhaps in a lesser degree) is to my certain knowledge met with in New York almost weekly, and rapidly relieved in a few moments by the wire curette, without any one of the severe measures first employed by the eminent French gynecologist, I cannot help thinking that it may not be superfluous to point out, in as forcible a manner as possible, how frequent such cases are, and how much more readily and safely they can be cured than by the Récamier's curette and the paste of Canquoin.

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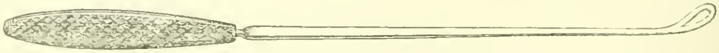
[1] *Arch. f. Gynäk.*, vi. 1, 1874.

Before proceeding to a description of Dr Thomas's instrument, the manner of its employment, its indications, and the conditions requiring its use, I wish to say that this purely clinical paper is not designed to discuss the etiology and pathological anatomy, or all the clinical features of intrauterine vegetations, or the other conditions calling for the curette. These shall be touched upon only so far as appears necessary to my purpose; for a fuller description of the vegetations I refer the reader to the abstract of Olshausen's complete and valuable paper above mentioned, or to the original in the *Archiv für Gynäkologie*, vol. viii., No. 1, entitled "Chronische Hyperplastische Endometritis." It is, so far as I am aware, the only contribution to medical literature specially devoted to that subject.



Description of the Instrument.—Thomas's " copper-wire curette without cutting edge " (as he himself calls it) is an instrument 9 inches long, $3\frac{1}{2}$ inches of which form the wooden handle, made of soft copper wire $\frac{1}{6}$ inch thick near the handle, and tapering down to $\frac{1}{12}$ to $\frac{1}{16}$ inch in thickness at $\frac{1}{2}$ inch from the end, where it is bent into an elliptical loop $\frac{1}{4}$ inch broad, the wire at the loop being flattened on the scraping surface. The wire at the inception of the loop is so soft and flexible, that any greater than a superficial pressure will cause it to bend, whereby a deep injury to the uterine mucosa is absolutely avoided. Besides, at the junction of wire and handle, the former is grooved, so as to bend easily at the point, also with the object of preventing firm pressure. The breadth of the loop mentioned above, $\frac{1}{4}$ inch, is the usual size; but there are two other sizes made, one larger and one smaller, in proportion to the patency of the cervical canal.

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[1] *Arch. de Tocol.*, Oct. 1877.

[2] *Leçons cliniques sur les maladies des femmes*, p. 242.

It may seem that this flexible blunt loop of wire is too frail to be of real service, but experience has amply shown that it fully answers the purpose for which it was intended, and that gently drawing it over the uterine mucous membrane suffices to detach the projecting vegetations or granulations and to cure the case, without requiring or subjecting the patient to the danger accompanying the use of a stiff sharp steel scoop.

Indications.—There is really only one indication for the use of the curette, and that is pathological uterine hæmorrhage; menorrhagia, or metrorrhagia, which has resisted all other remedies, and for which no physical cause, constitutional or local, can be detected by the usual means of exploration. In such a case we are compelled to look for the cause of the hæmorrhage in some intrauterine disease, not distinguishable by the ordinary digital and specular examination. The curette will then give us the required information, for by it we shall either remove a portion of the *fons et origo mali*, or receive a negative result at least, in the assurance that the uterine cavity is empty and healthy. The first and chief use of the curette, therefore, is as a *means of diagnosis*, and as such it must be employed in almost every case until its withdrawal shows the presence or absence of an exciting cause.[1] The unirritating nature of the operation with the wire curette renders this procedure entirely justifiable and harmless, while sufficiently effective. Having thus ascertained by means of the curette what the cause of the hæmorrhage is, if located in the uterus, we find that it is one of three *conditions requiring the therapeutic employment of the curette.* These are, taking them in the order in which they are commonly met with:—1. Chronic hyperplastic endometritis or fungous degeneration of the uterine mucous membrane. 2. Retention of adherent placental villi after miscarriage. 3. Diffuse sarcoma of the mucosa of the body of the uterus.

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[1] Although I have repeatedly heard Dr Thomas mention this diagnostic use of the curette, in no text-book or paper do I find it recorded except in that of Hegar and Kaltenbach (*l.c.*), who make precisely the same use of Sims's curette (or Récamier's, as they call it). With Sims's instrument, however, the operation can evidently be neither so gentle nor so innocuous as with the wire curette, which latter answers every purpose.

1. Endometritis hyperplastica chronica or polyposa (Olshausen), fungous degeneration of the uterine mucous membrane (Thomas), fungosites uterines (Récamier), endometritis chronica (Hegar and Kaltenbach), metritis hæmorrhagica (Weber, St Petersburg), metritis villosa (Slavjansky), manifests itself by three separate anatomical conditions: (*a*) diffuse, low granulations, developed in patches eroded and ulcerated by chronic catarrh, or spread over the whole mucosa, similar to granular conjunctivitis (Atthill); (*b*) a uniform general hyperplasia of the whole mucosa of the uterine body without polypoid formations, "an unhealthy pulpy condition of the mucous coat" (Tanner); and (*c*) numerous polypoid fungous vegetations scattered over the hyperplastic mucosa, the endometritis polyposa of Olshausen. In this last category might be included mucous polypi, which, however, are rare in the cavity of the uterus proper, and generally confined to a limited portion of the endometrium.

All of these pathological conditions are well known to produce hæmorrhage, which is arrested only by the removal of the exciting cause. The masses removed by the wire curette in class *a* will generally possess more the character of fine shreds and turbid bloody mucus without actual distinct pieces of tissue, the curette merely crushing and obliterating the flabby granulations; in class *b*, soft pale slices and irregular patches will come away; and in class *c*, distinct, flattened, polypoid vegetations, varying in size from a millet-seed (the usual size) to a pea or a bean, and soft and pulpy in consistence.

Occasionally all of these neoplasms are combined, and removed in the same case.

The vegetations or fungosities (according to Dr De D. Mann, pathologist to the New York Obstetrical Society) consist histologically of the structureless basement substance, containing great quantities of small round cells and nuclei, and portions of uterine follicles and vessels. Granulations have no follicles.

Olshausen states that endometritis polyposa strongly resembles the broad-based molluscum of the corpus uteri described by Virchow, the great difference being, however, that in the latter affection large masses of dilated glands are found, which are absent in the former. A microscopical examination will usually be required to determine the exact nature of the masses removed, should there be any doubt on the matter. It should further be stated, that endometritis polyposa is limited strictly to the cavity of the uterus proper, stopping at the os internum, below which commences the region of enlarged Nabothian follicles and mucous polypi, for the removal of which Thomas himself recommends Sims's sharp curette.

Endometritis polyposa is not confined to the married or parous woman, but occurs also not unfrequently in the single female, even after the menopause. It generally owes its origin to a chronic catarrh of the endometrium, the ordinary muco-purulent discharge of which has gradually become sanious or pure bloody, accompanied by profuse menstrual flow, and gradually increasing anæmia and general debility. The previous existence of a profuse chronic leucorrhœa will therefore convey a suspicion of the presence of this affection. The local symptoms are often slight, generally merely the ordinary pelvic weight and dragging met with so commonly in uterine disease. The cervix is usually soft, the external os often more or less gaping, and the cervical canal and internal os patulous. The finger passed into the uterine cavity could feel the mucous membrane swollen and spongy. To detect the vegetations themselves by the touch would scarcely be possible, owing to their scattered site, small size, and pulpy consistency. No one portion of the endometrium seems particularly favoured by these growths, for I have removed them with the curette from either surface. The number of vegetations removed may vary from two or three to a dozen, or a whole teaspoonful or more, their size from a millet-seed to a bean, the latter being rarely met with.

When we consider how easily the diagnosis of this affection is now made by the curette, we must wonder at its having been so rarely recognised and so little appreciated, as it undoubtedly has been since its discovery some twenty-eight years ago. The explanation given by Olshausen for this neglect is probably the correct one, namely, that the sharp curette having been proscribed, the only means of diagnosis of the affection was by the finger, after opening the canal by laminaria or sponge tent (still the only method advised by Atthill in 1873); the former of which flattened out the growths and rendered them impalpable, and the removal of the latter destroyed them.

After what has been already said in this article, it seems scarcely necessary to remark, that constitutional treatment is of no avail whatever for the cure of this affection, and consists only in remedies designed to support and restore strength. Topical applications of caustics (argenti nitras, tr. iodine, liq. ferri persulph.), have by long experience been found but temporarily beneficial in arresting the hæmorrhage; stronger caustics, such as nitric and chromic acids, will, it is true, convert the whole surface of the uterine mucosa into an eschar, and thus probably cure the disease. But as, in any case, the disease, with its exciting cause, is liable to recur, and the use of these strong caustics is always attended with more inconvenience, pain, and danger than are ever found to result from the simple operation of the wire curette, the latter instrument should invariably be preferred to caustics in these cases.

2. *Placental villosities* are very frequently detected *in utero* after a miscarriage, particularly when the placenta was expelled alone, after the birth of the embryo, or was manually removed. These patients generally continue flowing after the miscarriage for a

longer or shorter time (often profusely), until their weakened state finally obliges them to seek medical advice, usually after the fruitless employment of a variety of constitutional hæmostatics. Should the cervical canal still be sufficiently patent, the finger will readily detect an irregular rough circumscribed spot on the endometrium, or what is equally positive and more applicable, through the generally contracted os. The curette makes that discovery, and at once removes a fragment, the macro- and microscopical appēarance of which readily assures the diagnosis, and points out the immediate cure of the hæmorrhage by the removal of its exciting cause.

3. *Diffuse sarcoma of the uterine corporeal mucosa* is a very rare disease, only sixteen instances of which have, according to Schroeder, been recorded in literature. It should not be confounded with sarcoma of the parenchyma of the uterus, which is decidedly more frequent, and resembles in its macroscopical characteristics the ordinary fibroid tumour of the uterus. Diffuse sarcoma membrane is confined almost exclusively to the body of the uterus, only two cases of its occurrence in the cervix being recorded (both Spiegelberg), and appears as a soft, flabby, villous growth, spreading over a greater or lesser surface and rapidly assuming an irregular polypoid shape. It is in its early stages only that it is amenable to treatment by so simple an instrument as the wire curette; later on, the sharp scoop or the galvano-cautery are required. The differential diagnosis between diffuse sarcoma, unusually prolific vegetations, and retained placental fragments, can as a rule be made with certainty only by the microscope, and is then easy enough, the distinctive histological features of each of these masses being sufficiently characteristic. The symptoms of diffuse sarcoma in the early stages resemble those of endometritis polyposa, but the hæmorrhage is generally more profuse, and alternates with watery discharges frequently mixed with shreds, and there is often more or less pelvic pain.

Another class of cases in which the wire curette can be advantageously and safely used are those of carcinoma of the cervix, in which, after amputation, the sharp scoop, or cauterization, fresh readily-bleeding granulations spring up. These I have repeatedly removed off-hand with Thomas's curette, applied nitric or chromic acid, or bromine, or sol. ferri persulph., and sent the patient home. Large masses of cancerous tissue would, however, require a more powerful instrument, like Simon's sharp scoop, the use of which should be attended by all the precautions employed during and after a serious operation.

(*To be continued.*)

Part Second.

REVIEWS.

Ziemssen's Cyclopædia of the Practice of Medicine. Vol. XIV. *Diseases of the Nervous System.* Vol. XV. *Diseases of the Kidney.* Vol. XVI. *Diseases of the Locomotive Apparatus.*

THE first remark we have to make in regard to this admirable Cyclopædia is that, notwithstanding greatly increasing the bulk of many of the later volumes, at considerable extra cost to themselves, the American publishers have found it impossible to complete the whole from the original German without extending the publication from fifteen to seventeen volumes. This, therefore, they have wisely agreed to do; it would have been a great pity to cripple the usefulness of the work by omitting any subject, more especially any of those subjects which remain to be treated in the forthcoming volumes, which are of the greatest professional interest. When complete, it will be found to be one of the fullest, most complete, and most valuable repertoriums of medical science and practice, and withal one of the cheapest.

The volume on Diseases of the Kidneys comprises a historical and practical treatise on the diffuse diseases of the kidneys by Bartels, who is already favourably known to the profession by the New Sydenham translation of his clinical lectures on the same subject, which originally appeared in Volkmann's *Sammlung.* This treatise occupies about two-thirds of the work, and is followed by a series of essays by Erbstein on cancer of the kidney, renal cysts and tumours, renal parasites, and all the various similar subjects which may be included under the heading of "Diseases of the Kidney."

While not devoid of merit—in fact it is very full and good from its own point of view—we cannot help regarding this volume as the least satisfactory that has appeared. The historical part is defective, does injustice by omission to many authors, and places others in a position to which they have no right. The essay on Uræmia is by no means clear, and is certainly unsatisfactory. While in that on Renal Cirrhosis, Bartels puts himself in opposition to Gull and Sutton, and to some of the best of our British observers, by denying the existence, or, at all events, the constant existence of disease of the arterial coats in this affection. In the treatise on "the doctrine of Albuminuria," also, the absence of a full and accurate knowledge of the history of that doctrine leaves a distinct hiatus in it, which does not, however, invalidate the conclusions arrived at, though it certainly renders them less explicit and simple. But with all these defects the volume supplies the British practitioner with a mass of facts in relation to albuminuria and diseases of the kidney which is surpassed in but few monographs, and which is altogether unequalled in any similar cyclopædia of practice of medicine in the English language.

In the volume on Diseases of the Locomotive Apparatus, the essays by Senator on Acute Rheumatism, Gout, and allied disorders are of great importance. In regard to the etiology of rheumatism he notices the doctrine, first propounded by Pfeufer, that it originates in a primary endocarditis, the polyarthritis being due to arrest in the joints of a multitude of minute embolisms washed from the surface of the mitral valve. Freely acknowledging the impossibility of recognising rheumatic endocarditis in its early stage, we must, however, agree with Senator that such an attempted explanation is simply pathology run mad, and is in no respect borne out by the history of the disease. The lactic acid theory, to which Senator himself seems to lean, has, however, just as little foundation in fact. For though it be true, as Foster and others have shown, that the ingestion of lactic acid is occasionally followed by rheumatic attacks, it has not yet been proved that the rheumatism resulted from the lactic acid, and was not a mere coincidence, as seems more likely from the fact that those very cases have been known to recover perfectly from this rheumatism without ceasing to take the lactic acid. Though a well-known author on the subject of corporeal temperature, Senator is very meagre in his account of those very remarkable cases of hyperpyrexia which occasionally occur in rheumatism, and so often prove fatal. He gives no explanation as to the cause of this hyperpyrexia, and says almost nothing as to its treatment, though he evidently leans to affusion rather than to plunging in cold water, and in so far indicates his view that the object he seeks to attain is vital and not simply mechanical. In this volume there are also some excellent papers on general disorders of the nutrition by Immermann, including anæmia, pernicious anæmia, chlorosis, corpulence and its treatment, etc. Birch-Hirschfeld treats of scrofulosis, malignant lymphoma, etc., and Senator takes up the two forms of diabetes, mellitus and insipidus. This volume is very important both as to its subjects and their treatment.

The fourteenth volume, on Diseases of the Nervous System, is also a very valuable one. Kussmaul's exhaustive essay on the disturbances of speech is extremely interesting, very full, and views the subject from all sides.

Edinburgh physicians do not require to be told of the virtues of arsenic in chorea—James Begbie made them well aware of that long ago; but it is refreshing to find Von Ziemssen so emphatic in its praises. From the statements he makes it is perfectly obvious that he has used it often and successfully, for these statements agree with those of others. First, that large doses must be given; second, that in a fortnight the choreic symptoms are reduced to a minimum; and third, that neither in text-books nor in daily practice does this agent get half the credit it deserves in the treatment of this disease. Every one who has used arsenic successfully in this disease must recognise the truthfulness of this remark. Although the treatment seems to be so certain, the pathology of the disease seems to be as obscure as ever.

Epilepsy, eclampsia, paralysis agitans, athetosis, etc., are all fully treated of in this volume. And while all the subjects are so treated that a clear and distinct idea of their diagnosis and general course, as well as of their treatment, is conveyed to the busy practitioner, there is also supplied with each article so full a bibliography that any one desiring to study any particular disease more fully, either as to its history, pathology, or treatment, has the means of doing so fully supplied him. We cannot too highly recommend these volumes to our readers, as containing in themselves a most convenient and comprehensive medical library, specially suited for the busy practitioner, whether in town or country.

Traité d'Hygiène Publique et Privé. Par A. PROUST, Médecin de l'Hôpital Lariboisière. Avec 3 cartes coloriées et figures dans le texte. Pp. 840. Paris: G. Masson: 1877.

(*Continued from p.* 753.)

PASSING over many pages of excellent and interesting reading, we leap from early infancy to *old age*—from the first to the ninth and last epoch of human life. Diseases affecting infants and old people, which bear the same names, and possess a fundamental pathological identity, are often essentially different in their course and treatment. We subjoin part of the author's summary of the manner in which advancing years and old age influence, and often entirely change, the character of morbid processes.

"On the other hand, old age creates certain pathological immunities. Charcot says:—'Eruptive fevers, typhoid fever, and phthisis are unusual in old age: the importance of these immunities must not, however, be exaggerated, for they are far from being absolute, as Rayer has shown in respect to typhoid fever, Murchison in respect to typhus, and other authors in respect to other diseases. Who does not know that Louis XV. died of smallpox at the age of sixty-five?' [*Leçons Cliniques sur les maladies des vieillards*: Paris, 1866, p. 13.] Even when old people are stricken by a common disease—by pneumonia, for instance—the manner of the evolution of the malady is different from that observed in the adult. Old age is characterized by deficient reaction, and, to use the happy expression of Charcot, the organs seem to suffer separately [*les organes semblent souffrir isolément*]: it is also characterized by the frequency of the diseases which the old physicians called *latent*, meaning by that term, that though not passing entirely unobserved, they dissemble more or less in their manifestations, so that to be discovered, they have to be sought for. Lobular pneumonia, so uniform and frank in the adult, both in its invasion and course, in adults, progresses in a totally different manner in old people: they have no initiatory shivering, no sharp pain in the side, no apparent dyspnœa, no expectoration, and hardly any discomfort, dryness of tongue, or loss of appetite: they go about till within a few hours of their death; and physicians unaccustomed to see the disease presenting these unusual features, are astonished to find, at the autopsy, an extensive suppurating gray pneumonia. Other examples are mentioned by Charcot. Biliary lithiasis, so frequent in the old, in place of manifesting itself in them by formidable hepatic colic, usually causes only a little pain in the liver, some vomiting, slight yellowness of the skin, with sometimes intermittent feverishness—symptoms more calculated to mislead than to put us on the way to a diagnosis. Cancer of the stomach and of the liver are equally often latent in the old, being unaccompanied by violent pain or vomiting. Saccharine diabetes may exist in old people without polyuria or thirst [*Charcot: Bence Jones*]. The fever, when it does exist, is unattended by that turfescence of the skin, that acceleration of the circulation, that urgent thirst, and that intense sweating which are, so to speak, its normal characteristics. It is in old people, in particular, as Charcot remarks, in the course of the masterly description from which the above details are derived, that it is important to resort to thermometrical exploration, made as much as possible in the central cavities, to ascertain the existence and intensity of the febrile action. It appears, then, that the special characteristic of senile pathology, the direct consequence of the physiology of old age, is feebleness, atony in reaction, and, in a word, general torpor of the economy."

Professional and industrial occupations have a great influence upon the health of the individual. Certain professions and trades not only produce a peculiar *habitus corporis,* but likewise originate particular maladies. A select and useful bibliography is given. The literature of this subject is very extensive, and includes numerous valuable monographs on the effects of different employments. The author gives an account of the nature and prevention of the more common bad effects of particular industries, devoting 177 pages to the subject, which he treats in the following order:—1. Eruptions produced by external causes; trades causing abnormal colourations and of the skin; 2. Eruptions of internal origin; trades causing cutaneous eruptions by absorption; 3. Trade deformities and attitudes; the trades which produce them; 4. Affections of the muscles, aponeuroses, tendinous sheaths, joints and bones, and the trades which produce them; 5. Affections of the respiratory apparatus, and the trades by which they are produced; *a.* Affections following the inhalation of substances in the form of dust; *b.* Affections following the inhalation of gases and irritating vapours; 6. Affections of the circulatory, digestive, nervous, and genito-urinary apparatus, and the trades which produce them; 7. Affections of the eye, and the trades which produce them; 8. Toxic affections, and the trades which produce them; 9. Affections not embraced in any of the preceding classes.

The professions which demand intellectual work are considered under the ninth division of the subject. Here is what the author says touching physicians and others, whose daily avocations severely strain the mind:—

"If the schoolboy requires holidays, they are equally necessary to the working adult, and particularly to the man who has to live by intellectual labour. Hence, the vacations in the courts of law afford admirably-devised opportunities to magistrates, advocates, and all whose routine of life is occupied with the tribunals, to take necessary repose. The majority of our scientific men and professors enjoy the same privilege, to which they are greatly indebted for preservation of health and prolongation of life. The physician, surrounded by pitiless exigencies, and the more weary the less able to rest, sees himself alone denied the privilege of repose, rightly conceded to members of the other learned professions. How many of the leaders of our profession have broken down under the pressure of work, really excessive, which they felt bound to accept! This matter seems now to be better understood in England, where the physician's holiday is generally recognised by the public. It is very desirable that a similar arrangement should prevail in France, so that the men who have to watch over the health of the public be not excluded, by the nature of their duties, from taking care of their own individual health.

"It often happens that brains fatigued by a toil too assiduous, and a production too abundant, seek to restore exhausted power by the use of artificial stimulants. Tea, coffee, wine, spirits, and even opium, are resorted to in succession to impart to the intellectual organs a factitious vigour, and enable them to bear a strain beyond their natural strength. It is hardly necessary to show the baneful nature of such practices, not only to the general health, but to the mind itself. There are peculiarly favoured men who seem able to violate with impunity all the rules of cerebral hygienics; but it is not less true that the majority of them end, sooner or later, by suffering the penalty of their rashness.

"Forced mental work often developes venereal desire, which can be looked upon only as the result of morbid excitement of the nervous centres. In such cases, the abuse of venery affords a deceitful relief inevitably terminating in enfeeblement.

"The hygienics of the liberal professions may be summed up in the one word *moderation*—moderation in work, moderation in alimentation, and moderation in anything. Can this state be realized?

It cannot. Many of us are condemned by the force of circumstances to a mode of life which is destructive to health: to point out the proper course to persons so placed is bitter mockery, when everything conspires to prevent their following it. It is, nevertheless, our duty as hygienists to state the object to be attained, and the means of attaining it."

Taken as a general statement, Dr Proust's summary of the hygienics of the liberal professions is forcible and correct; but in respect of our own profession, it is rather too bald; for it ignores important modifying circumstances. We, whose calling it is to minister to all the sick and hurt, who apply to us for aid, constitute a vast and noble army, the majority of the members of which are very hard workers—but hard workers in different ways, and under various and opposite conditions. A certain number, after passing their youth and the better part of their naturity in severe mind-straining toil—clouded too often with the depressing anxieties of hopes deferred—succeed, at forty or fifty, in obtaining abundance of remunerative work involving ceaseless intellectual toil of a somewhat monotonous character, and generally combined with the pernicious necessity of an enforced sedentary life in the consulting-room and the carriage. It was chiefly to hard-workers of that class, specially typified, no doubt, in many of his personal friends and acquaintances who were leading London physicians, that the late Sir John Forbes addressed his charming volume entitled—"A Physician's Holiday; or, a month in Switzerland in the summer of 1848." For example, he inculcates the value of the kind of holiday which he has so well described, by saying (at page 15) that "it will enable a large proportion of such persons to lay in a fresh stock of health, sufficient to last through the year, in spite of all the exhausting influences of confined air, sedentary occupations, and that overtasking of the mind to which so many of them are exposed, and which is the fruitful source of so many diseases." The class of practitioners whose bodily health suffers least, and whose mind suffers most by their hard work are said to be the great money-winning specialists. They have infinitely less mental strain to encounter than the leading general consultants, but they have a monotonous round of similar cases to deal with, which is very trying to educated minds—far more mischievous to the brain than the "overtasking" noticed by Sir John Forbes in the passage we have quoted, and requiring more urgently his Switzerland holiday. Money-winning specialties are very tempting; but they are particularly unwholesome to their professors, unless cultivated in conjunction with some other considerable branches of practice. For that reason we think that Dr Proust, in his summary of the hygienics of the liberal professions, might with great propriety have added "diversity" to the "moderation" of work which he recommends. The train of thought into which we have now been led has recalled to our recollection an address delivered by Mr Gladstone on the 13th July 1876 at the distribution of prizes at the London Hospital Medical School. On reading that address in next day's newspapers, we were so much struck with the truth and force of the following sentences, that we copied them in our commonplace book. As they were not spoken of medical specialists in particular, the lesson which they teach is the more likely to be believed and remembered.

"If asked," said Mr Gladstone, "what is the greatest danger of the present age, I would answer—its tendency to encourage what in science is called '*specialities*,' and what in industry is recognized as the '*division of labour*.' They both have their good results, it is true, but both tend to the disproportionate development of faculty. In science, if the mind be not constantly widening its field of thought, there can be no increase of aggregate power. The tendency of division of labour is to change men into stunted and deformed human beings. If mind and body are to be healthy they must be thrown into all attitudes and exercised in all their capabilities. Our soldiers before Sebastopol suffered bitterly, because they had been trained to a speciality; but our naval brigade, composed of sailors, were ready for any emergency."

These words of practical wisdom apply at present with peculiar force to too many of our profession. If we are to be healthy in mind and body—if we are to escape being stunted in intelligence—we must not limit our practice to one small speck of the domain of medico-chirurgical science. We must, to use the language of Mr Gladstone, throw ourselves into all attitudes and exercise ourselves in all our capabilities.

Both Sir John Forbes and Dr Proust write as if the medical was a sedentary profession, which is very far from the truth. The majority of medical men are not sedentary. Dr Proust himself says that it must be admitted that "there is an immense difference between the habits and life of intelligent educated persons exercising professions apparently identical. An engineer, who descends into mines, travels by rail, and is engaged in works of art, leads a life essentially different from that of the scientific professor, who looks forward to having his career crowned by a seat in the Institute. A country practitioner whose legs are wearied by his daily work is not placed in the same circumstances, does not enjoy the same immunities, and is not exposed to the same maladies as the scientific physician whose time is chiefly devoted to study, and in whom a much heavier weight has to be borne by the mind than by the body." Many members of our profession have to undergo quite as much—perhaps more—body-fag than brain-fag. It is the fortunate lot, moreover, of very many of our order to be under the necessity of combining an interesting variety of professional duty with more riding and driving among charming scenes. This wholesome blending of varied professional work with open-air life has enabled many a country doctor to go through a long life with augmenting robustness of body and mind, although he has hardly ever been able to take a single week of absence from his work.

There is no similarity between the holiday requirements of a limited physician living (as did Sir John Forbes) in the monotonous gloom of Old Burlington Street, and the unlimited country practitioner who is inevitably brought into contact, in the ordinary course of duty, with every kind of ailment and injury incident to men, women, and children; and the exigencies of whose sphere of action make him the daily companion of nature in her ever-changing and ever-charming moods—whose privilege it is, when accomplishing his necessary professional journeys, to hear the voice of spring, to feel the soothing sweetness of a long sunny summer day's light, and sometimes to

"See the deep-fermenting tempest brewed
In the grim evening sky."

Under the most favourable circumstances, and with the most diversified practice, the medical practitioner is often very much in want of a holiday; a run of anxieties and unfortunate cases take much elasticity and power out of even the strongest men. Recuperation is required. Cessation from work and change of scene are demanded. But the same kind of holiday is not suitable for all. Hard-working country doctors will often wisely seek change and refreshment in visiting towns—in seeing, for example, the palaces, picture galleries, museums, and other sights of London or Paris; while, on the other hand, the hard-working town doctor will, like Sir John Forbes, incline to take a month in Switzerland, or, at all events, far away from the din and bustle of cities. It is of great advantage to the latter class to import into their daily routine as much as possible of the wholesome diversities of the country practitioner's life; and when he cannot obtain these diversities within the profession, let him seek them in extra professional scientific and intellectual pursuits. Finally, let all the sons of Esculapius respect the Edinburgh Harveian degree of "Doctor Hilaritatis." We terminate our supplement to Dr Proust's inculcation of "*moderation*," by quoting eight of the seventy Latin lines constituting the diploma presented to the late Dr John Scott at the Harveian Festival on the 12th of April 1848:—

Nosque Harveio nati,
Ad mensam convocati,
Ex decreto FACULTATIS
AMPLISSIMÆ HILARITATIS,
Hoc diploma damus
Scottumque nunc creamus
DOCTOREM HILARITATIS
ATQUE JOCOSITATIS.[1]

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[1] Ex libro rerum gestarum Societatis Harveianæ Edinburgensis. The diploma *in extenso* will be found at p. 72 of *Nugæ Canoræ Medicæ*, published at Edinburgh in 1873 by Edmonston and Douglas.

We must express regret at having now occupied all the space at our command, and so being unable to notice more of the many important subjects included in Dr Proust's treatise. As a book of reference it is reliable. It is also agreeable reading, from the diversity of its subjects, the excellence of its plan, and the lucidity of its style.—J. R. C.

Clinical Records of the Injuries and Diseases of the Genito-Urinary Organs. By CHRISTOPHER FLEMING, A.M., M.D., M.R.S.E. Fannin & Co.: Dublin: 1877.

THE careful record of clinical cases is one of the best methods of advancing our knowledge of disease, and it is this method which has been adopted in the volume under review. There are ninety-five cases of genito-urinary disease placed before us in a clear and succinct manner, with remarks on the salient points of each case. The first chapter describes the pathology of the urine in its relation to surgery, supplemented by several artistic coloured drawings very true to nature. Plate 2, which shows the naked eye and microscopic appearances of the urine in the varieties of vesical calculus, with the resulting calculus in each variety, is particularly well executed, and its illustrative plan is ingenious. The bulk of the book is taken up with cases illustrating the different obstructions of the urethra, with chapters on hæmaturia, stricture of the urethra, diseases of testicle, scrotum, and spermatic cord, and calculus in bladder and kidney.

The second last chapter treats of phymosis. Mr Fleming recommends in circumcision the use of a four-pronged hook, which being inserted within the prepuce down to the glans, is, by slight pressure, made to transfix the mucous membrane, which may then be pulled forward, thus allowing the skin and mucous membrane to be severed at the same level, a matter of no slight importance. The last chapter treats of the morbid condition of the urine in children.

Binz's Elements of Therapeutics. Translated by EDWARD I. SPARKS, M.A., M.B. Oxon. London: J. and A. Churchill: 1877.

THE name of the author of this work is a sufficient guarantee of its value as a contribution to therapeutics; and while admitting its general excellence, we cannot avoid noting what appears to us to detract somewhat from its usefulness. For instance, it gives quite a superfluous list of preparations from different pharmacopœias without a word as to their comparative value; and the introduction of the metrical system of weights, must—notwithstanding its advantages—be rather confusing to the English student. Then, in describing the physiological action and uses of some of the remedies, we miss the mention of many useful applications of their action to the treatment of disease. What there is, is, as a rule, sound; but it is too meagre, at least for the student, and will probably be more useful to the practitioner who can from such hints make his own deductions as to their employment.

We turn, however, with particular interest to the article on the Action of Quinine, as Professor Binz's name is now associated with a theory of its action in malarial diseases, which is thus explained: That on those infective poisons, which are capable of self-multiplication in the body after a more or less regular period of incubation, quinine acts as an irritant, and these poisonous germs are thus rendered incapable of further development, as in malaria, or have their energy paralyzed, as happens to some extent in typhoid fever. He thus assumes that quinine acts on the malarial and typhoid poisons directly, and not on the nervous system—an assumption which is not borne out by its effects either in malarial or typhoid fever. In typhoid fever full doses of quinine cause a reduction of temperature; but we have never seen any case in which the course or duration of the disease were materially affected by quinine, or any effect which could warrant the assertion of its paralyzing the typhoid germs.

In malarial fever, however, the influence of quinine is more marked than in typhoid; but even here clinical experience does not support such a theory of its action; nor is it consistent with the recurrence of the attacks after the frequent administration of quinine, and its failure in some cases. If it acted as Binz supposes, malarial fever would yield much more speedily and certainly to the influence of quinine than it does. Hence we think that the theory which has been advanced by Dr F. Moinet, of "quinine being a physiological antidote to the malarial poison," is a much more natural explanation of its action than that of Professor Binz, and one which is also supported by clinical experience (see a paper in the *Edinburgh Medical Journal* for February 1878).

On the Uses of Wines in Health and Disease. By FRANCIS E. ANSTIE, M.D., F.R.C.P., late Physician to the Westminster Hospital, and Editor of the *Practitioner*. Reprinted from the *Practitioner*, p. 74, 1877.

KNOWING Dr Anstie's reputation as a young physician, and the promise of future eminence which death so unexpectedly cut short, we anticipated both information and valuable suggestions from this little work. We confess that these anticipations have not been realized, although it is quite possible that others may come to a different and more favourable estimate.

His allowance of wine in health is guarded, and many of his observations very judicious; but he attaches, we think, an undue and even dangerous importance to it in the treatment of many diseases. The distinctions drawn betwixt various wines—the superiority of one, the deleterious character of another, the importance of age and bouquet—are so sharply drawn and so exaggerated, that the ordinary practitioner must feel that, in prescribing wines for different cases, he is handling double-edged weapons of a formidable kind. There is too much precision displayed in the instructions given; too much theoretical reasoning; too little latitude allowed for common sense and individual experience. In short, we see that the author is a clever, well-read man, but has had little familiarity with the treatment of actual disease. For example, "In the convulsions of dental irritation, we are now aware that such local remedies as gum-lancing are seldom of any avail, the real source of mischief being the compression of the trigeminal nerve-fibres by the tight packing of the growing teeth in the jaw. Under these circumstances, our true resource is in brain stimulation; and incomparably the most effective stimulant for the purpose is a tolerably potent wine which is always rich in volatile ethers. No medicine can effect half as much good as port or sherry of good age and keeping; the latter is the more accessible, and our own experience leads us to rely upon it with implicit confidence. For infants under one year, half-teaspoonful doses should be prescribed every half-hour till the symptoms begin to decline; and it is seldom indeed that this result is not produced in a short time if the treatment be steadily pushed."

He makes a remark worthy of consideration in regard to the wasting diseases of childhood, such as the scrofulous and the rickety forms of disease and well-pronounced cases of *tabes mesenterica:* "It is rather remarkable that the evident superiority of steel-wine to other ferruginous preparations, in the majority of these cases, has not led to a more general consideration of the probability that the *vinous* part of the medicine goes for much in its effect upon the organism. Our own attention was principally called to the use of wine in infantile marasmus by the pre-eminent efficacy of the vinum ferri; and since that time we have very often made the experiment of relying on wine without the iron."

He goes the length of prescribing from one to two ounces of sherry in such cases, *per diem*, given with the addition of a vegetable bitter. He adds the latter with the laudable purpose of not setting up a liking for wine, "which, when the child arrives at puberty, might have an unfortunate influence on the further development of the emotional and sensual part of his nature."

We advise our readers to procure and study the book for themselves. It is quite possible that it has merits which we have overlooked.

Hospitals: Their History, Organization, and Construction. Boylston Prize Essay of Harvard University for 1876. By W. GILL WYLIE, M.D. New York: 1877.

DR WYLIE has had very special opportunities for studying the subjects named on his title page; he has been very sedulous in carrying out his purpose, and has executed his task with ability, fulness of knowledge, and literary taste. We regard the book, even in its first appearance, as a very valuable contribution to that sanitary improvement in hospitals and nursing which received so great an impulse during the Crimean War, which took shape, a few years after, in the great war in America, and is gradually finding its way into all the hospitals, civil as well as military, on both sides of the Atlantic. We cannot enter into details within the compass of a short review; but after a careful perusal of the work, we can cordially recommend it, not merely to those who are specially interested in the erection or enlargement of such institutions, but to all whose duty it is to minister in any way to the sick, whether in their own homes or in hospitals The writings of Miss Nightingale and others have done much already to educate the public mind on such subjects, and Dr Wylie frankly acknowledges himself much indebted to previous writers; but experience is rapidly teaching important lessons, and showing that many things still require to be learned.

Having thus expressed our opinion of the book in general terms, we may give a few specimens of its contents.

Under the head of the History of Hospitals, it is interesting to find that the Royal Infirmary of Edinburgh (1734) was "one of the first hospitals erected with the design of subserving the interests of a medical school." "The windows are large and opposite, and the number of beds in each ward is small, compared with the old ecclesiastical hospitals. In many respects it shows progress, but it is evident that the controlling ideas in the plan of construction were *economy* and *convenience of administration*." Still this old building has, during nearly a century and a half, proved itself exceptionally salubrious, in comparison with many others. Let us hope that the new buildings now in process of construction will maintain and increase its well-deserved reputation.

Under the head of Organization, we quote the following judicious remarks on the duties and qualifications of the superintendent, showing the absolute necessity and importance of such an official in a large civil hospital:—"To be educated as a physician implies that a man has studied the subject on which sanitary science is based; but it is rare to find a doctor who is a sanitarian; in fact, many doctors seem never to have directly considered the subject. The superintendent, therefore, besides being a medical man, or one educated as such, should be a good sanitarian, and one who has given special study to hospital construction, and who has some knowledge of mechanics and civil-engineering. It is useless to depend upon a committee of inspectors appointed from the members of the medical board, whose duty it would be to supervise the sanitary condition of the hospital. They are much too busy to attend to the work, even in a routine way, and they never think of studying up sanitary subjects. The duty of the superintendent would *be the constant personal supervision of the hospital, especially in regard to its hygienic and sanitary condition*." "An important duty of the superintendent would be to carefully supervise the construction and repairing of all buildings. Let the plans be never so well prepared, numerous questions will arise, which can only be decided by a superintendent of the qualities described above. Unless such a person is on the spot when the work is going on, many opportunities will be lost for making minor, and sometimes radical and essential, changes in the carrying out of the plans. On this account, it will be of the greatest importance to select the superintendent before the work of building the hospital is commenced. The superintendent must be a man of position and ability, and one who can be trusted with authority; otherwise he will be made a tool of, and will serve the interests of some individual or clique, instead of those of the hospital. Any attempt on the part of the trustees or others to employ a superintendent of inferior capacity, and to depend on supervising the hospital from the outside, will prove a failure."

Some curious and important statements may be quoted regarding the construction of hospitals. "Lately Pettenkofer has shown by experiment, that a difference of temperature in the air of a closed room from that of the outside air causes a free flow through the walls of the room, and that the quantity of air passing through varies according to difference of temperature, or inequality of atmospheric pressure, and the character of the wall; but that through all walls more or less air will pass, and that the quantity of air which will pass through an ordinary brick wall, with the usual plastered surface, is very great. He says that, in the case of an ordinary room, with the windows and doors closed, with an open fire burning, more than half the air that enters the room and passes up the chimney *comes directly through the walls*. If it is true that infectious germs are floating about in the air, and that the walls are permeable to air, then it is easy to understand that the walls of an apartment would be liable to infection. There are facts which go to show that walls do become infected with the poison of disease." A striking instance occurred in New York in 1864, when, in renovating a fever ward in the old hospital, out of five masons who were removing the plaster, three died of fever in a few days. "We do not doubt that perfect cleanliness, and careful attention to ventilation, will do much to prevent the infection of the walls, and to obviate the danger when they are infected; still, many cases will arise where the saturation of the walls of a building in which a number of infectious cases have been treated is such as to demand complete destruction."

These facts have, as will be seen, an important bearing on the question: *Should certain wards be temporary in character?* Dr Wylie adopts the following classification of cases treated in an hospital:—

1. Non-infected cases, and those not liable to become so or to infect others—as rheumatism, diseases of the heart, liver, kidneys, etc.
2. Non-infectious cases, and not dangerous to others, but liable to become infected—as slight wounds, scalp-wounds with slight fracture of skull, etc.
3. Non-infectious, but liable to become so, and dangerous at all times to others—as sloughing wounds, burns, etc.
4. Infectious and contagious cases—as pyæmia, septicæmia, erysipelas, gangrene, etc.

He suggests that the *pavilions* (he prefers that arrangement) for the first and second classes of cases should be *permanent* in character, that those for the third class should be *more or less temporary*, and that those for the fourth class should be frequently *destroyed* and renewed.

This plan of procedure must depend, of course, upon the hospital having ample space, an advantage hitherto unattainable in large and populous cities; but in these days when the facilities for locomotion are so great, with telegraphs and telephones, we believe that the difficulty might often be obviated by erecting the buildings in a suburban district.

Transactions of the International Medical Congress of Philadelphia. 1876. Edited for the Congress by JOHN ASHHURST, Jun., A.M., M.D., etc. Philadelphia: 1877.

THIS is a large handsome volume, closely printed, of eleven hundred pages, with notes and illustrations. It bears every indication of being carefully edited, and is provided with a full table of contents and a convenient index. That the numerous papers are all excellent, the size of the work prevents us from asserting with confidence; but we have read a few of them with interest, and, on the principle of *ex uno disce omnes*, are disposed to give a favourable opinion of the others. There can be no doubt, that a conscientious student of the whole collection would emerge from the undertaking a fuller and more knowing, if not a wiser man.

The President of the Congress, consisting of about four hundred and fifty delegates and invited members, registered during the meeting, was the distinguished surgeon of world-wide reputation, the venerable Samuel D. Gross of Philadelphia. He delivered a graceful address of welcome, from which we may introduce here a few sentences explanatory of the composition and purposes of the Congress, and showing the kindly feelings of our brethren in America.

"It is at all times a source of gratification to welcome friends, especially when they are united by the bonds of common brotherhood; but on this occasion, so pregnant with important events, the feeling is vastly heightened by the fact, that we have assembled around us brethren not only from every section of this great continent, but from various foreign climes—from the British Dominion, from England, Ireland, and Scotland, from France, Belgium, and Germany, from Russia, Sweden, Norway, and Finland, from Greece, from China and Japan, from Australia, from Mexico and South America, and, I had almost said, from every country in the world. It is interesting to know that some of these delegates come here accredited by their respective governments. The invitations sent out by the commission covered every prominent medical society, and every distinguished medical man in all the four quarters of the globe. The object was to bring together representative men from all nationalities to participate in our proceedings, and to afford us the benefits of their wisdom, and the results of their experience and scientific investigations. If all these, or even a respectable minority of these representative men, could have been here, what a glorious spectacle would be presented in this hall this morning! Men laying aside for a while their ordinary pursuits, crossing vast continents and perilous seas, congregating to unite with us in celebrating our first medical Centennial, in interchanging cordial salutations in deliberating on the best means of promoting the dearest and holiest interests of our profession, and in laying their contributions — the accumulations of years of study and observation— upon a common altar for the common good! In its wide range the present Congress is without a parallel. Similar bodies have repeatedly met, but none on so grand a scale, or with such a cosmopolitan outlook."

Before going further we may mention that the University of Edinburgh and the Medico-Chirurgical and Obstetrical Societies of our city were represented at the Congress by Professor Lister, Professor A. R. Simpson, Dr D. Argyll Robertson, and Dr William Finlay. Mr Lister was president of the surgical section, and had an ample opportunity, of which he availed himself very creditably, for expounding and vindicating the antiseptic system of treatment. Professor Simpson was one of the vice-presidents of the obstetric section, and spoke on several subjects of interest, maintaining the reputation of his family name.

The address on surgery by Paul F. Eve, M.D., professor of operative and clinical surgery in the University of Nashville, will be read with much interest. His exordium challenges an attentive hearing to what follows:—"Precisely fifty years ago, he who is now to address you landed on Chestnut Street wharf of this city, inquiring for the office of the late distinguished accoucheur, Charles D. Meigs, to become his private pupil; fifty years before that, his father, born in Philadelphia, had been the associate of Rush, Shippen, and James; and now, at the end of those hundred years, the son is invited back to declare before this International Medical Congress, and at the celebration of the first Centennial of these United States, what his countrymen have done for surgery."

The historical sketch of American surgery given by Dr Eve really indicates remarkable progress in a comparatively short period of time, when we bear in mind that Philip Syng Physick, who has always been regarded as the father of American surgery, was not born till 1768, and was therefore only eight years of age when the independence of the States was declared. It is interesting to hear that he was a private pupil of John Hunter, became house-surgeon at St George's Hospital in 1790, and professor in the University of Pennsylvania in 1805. Dr Eve tells us that, "intimately connected with the origin, rise, and progress of surgery in America were four other professional gentlemen, the contemporaries of Dr Physick, who were long spared beyond the allotted period of man on earth, as if to illustrate in their lives and characters the benefits of industry, temperance, and benevolence. These were—Warren, Mott, Dudley, and Gibson, whose average age was eighty-three years." The whole paper will repay a leisurely perusal. While it sets forth, in a luminous manner, the distinguished march of American surgery during the last seventy years, it does not ignore what has been done by contemporaries in other lands.

In the midst of so much that is valuable, it may appear almost invidious to make a selection; but we have been specially pleased with a paper on "The Treatment of Aneurism," by Dr Van Buren, Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College of New York. He professes to draw largely in his report from the excellent lectures of Mr Timothy Holmes, of London, on the same subject, which have hitherto been confined to the pages of the medical journals. Other sources of information are acknowledged; but still the contribution of Dr Van Buren is very important, being full of accurate details, skilfully arranged and clearly described. The purely medical treatment of aneurism, by Tufnell of Dublin and George W. Balfour of Edinburgh, receives due attention. The method of controlling external aneurismal tumours by compression is fully discussed; the changes of opinion in regard to the nature of ligatures are described; the subject of orbital aneurism is passed in review; galvano-puncture, in regard to which the researches of Dr John Duncan are properly recognised, is treated at some length; and the method by manipulation, with which the name of Sir William Fergusson is closely connected, is favourably mentioned, and its *rationale* explained. Dr Van Buren thinks that it has been proved, by carefully studied preparations and cases, that impaction of clot in the distal end of the artery, as it leaves an aneurismal sac, is naturally (not always necessarily) followed by obliteration more or less complete of the sac. The curative effect of the *distal* ligature is thus explained, and also that of the method of manipulation. By the latter, a portion of clot is intentionally, and by violence, detached from the internal wall of the aneurismal sac, and pushed by the fingers, or carried by the current into its distal outlet, so as to plug it like an *embolus*.

After discussing the treatment by coagulating injections, which receives small encouragement, the author adverts to the idea of inserting foreign material into the aneurismal cavity, in order to provoke mechanically the deposit of fibrinous clot. Mr Moore, of the Middlesex Hospital, London, followed by Domville and Murray, employed fine wire, but failed, from inflammation being excited in the sac. Dr Levis, of Philadelphia, introduced twenty-four feet of horse-hair through a fine needle canula into a subclavian aneurism. The tumour became hard, and the pulsation in it and in the radial artery ceased at once. The man died within the month from another cause; but there were no evidences, on post-mortem examination, of inflammation caused by the foreign body. Mr Bryant, of London, has performed a similar operation with success, although the patient died in five days, from ulcerative endocarditis previously existing. Dr Van Buren adds:—"If we succeed in getting a preparation of catgut somewhat more permanent than that now in use for ligatures, but still capable of blending ultimately with the tissues, the use of this substance would be still less likely to provoke inflammation or suppuration."

After alluding to the prestige acquired for the Hunterian operation in Great Britain and America, the author proceeds thus:—"It seems profitable to ask ourselves, how far English and American surgeons may have carried a partiality for that operation to excess, and tied arteries for aneurism in cases in which other methods might have offered a better chance for life. That this has been the case in some degree, we have the authority of Syme of Edinburgh, undoubtedly one of the greatest operators of his day. Towards the close of his life this surgeon formally raised the question as to the applicability of Hunter's operation to axillary and iliac aneurisms, after having advocated it, as he states, for thirty years. After a series of operations on the greater arteries unequalled in brilliancy and success, he felt himself justified in asserting, "that aneurisms of the popliteal, femoral, and carotid arteries alone are proper subjects for ligature by the Hunterian method," and that all other aneurisms are more safely treated by the old operation of laying open the sac. "The terrible mortality of the Hunterian operation in subclavian, axillary, and iliac aneurisms, demonstrates clearly that the Edinburgh surgeon was right in raising the question of its applicability to these cases. . . . . Dupytren abandoned it (ligation of the subclavian) in one instance, after persevering for an hour and a half, asserting that it was the most difficult operation he had ever undertaken; and Lister punctured the aneurismal sac in carrying his ligature round the vessel, and lost his patient. On the other hand, in two cases of rapidly advancing axillary aneurism, Syme limited himself to dividing the tissues at the root of the neck, so as to admit a finger to be introduced to compress the artery against the first rib, and then he laid open the tumour in the axilla, and tied the vessel as it entered and again as it left the sac, and in both instances saved his patient. In two cases of axillary aneurism of a still more desperate character, he succeeded in saving the patients by amputation at the shoulder-joint after the ligature had failed; and Mr Spence adopted the same mode of procedure, at least with temporary advantage, in a case of subclavian aneurism."

We are glad to find reference made, in another passage, to Mr Syme's brilliant operation in gluteal aneurism; we doubt, however, if a suggestion made by Dr Van Buren with regard to future cases of the same kind could be advantageously carried into effect. After stretching the sphincter ani, where several fingers or the whole hand have been introduced into the bowel, he has been struck with the facility with which the great arteries of the pelvic cavity could be felt by the fingers and compressed against its bony walls; and he is confident that either the external or internal iliac, or their common trunk, could be thus easily commanded long enough to render it a safe operation to lay open a gluteal aneurism and secure the artery involved, if external to the pelvis. "All that is necessary," he adds, "is a reliable assistant, with a small hand, who is somewhat familiar with the manœuvre."

He sums up his excellent paper with the following conclusions:

"1. Tufnell's treatment of aneurism by rest, position, and restricted diet, offers a valuable resource in thoracic and abdominal aneurism.

"2. It should always be tried in innominate, subclavian, subclavio-axillary, and iliac aneurisms, before resorting to measures attended with risk to life.

"3. For aneurisms of the subclavian and iliac arteries, the Hunterian operation, with our present means of preventing secondary hæmorrhage, is not justifiable.

"4. For reasons formerly set forth by Holmes and Henry Lee, the 'old operation' cannot properly be formally substituted for the Hunterian operation in these cases, but should be held in reserve for special cases.

"5. It is the most safe and surgical resource in gluteal aneurism, if the circulation can be commanded by the hand in recto.

"6. The mode of cure by embolism, aimed at in the method of manipulation, is a not unfrequent explanation of what is called spontaneous cure of aneurism.

"7. The value of Esmarch's bandage in the treatment of aneurism is probably not fully estimated.

"8. In view of the promising features presented by the cases of Levis and Bryant, in which horse-hair was introduced into an aneurismal tumour, the repetition of this operation, or the substitution for the horse-hair of Lister's prepared catgut, or other animal substances, may be properly tried."

As a not unsuitable conclusion to the foregoing subject of aneurism, and also to this imperfect review of a very extensive work, we may quote one or two sentences from Mr Lister's address on taking the chair in the section on surgery:—"American surgeons are renowned throughout the world for their inventive genius, and boldness, and skill in execution. It is to America that we owe anæsthesia, the greatest boon ever conferred on suffering humanity by human means; from America came the ligature of the common iliac artery for aneurism; the ligature of the internal iliac for the same disease; the "extension treatment," by weight and pulley, for fractures of the thigh and other injuries and diseases; the reduction of dislocation of the hip-joint by manipulation; and that model of ingenuity, which I cannot mention without alluding to the name of its inventor, Sayre's splint for morbus coxarius. These are but samples of what surgery owes to this country, and it might, therefore, well have been that some American surgeon should have been called upon to preside over this section of the Congress."

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVII.—MEETING III.

Wednesday, 16*th January* 1878.—Dr J. D. Gillespie, *retiring President*, and afterwards, Professor Sanders, *President*, *in the Chair.*

EXHIBITION OF PATIENTS.

I. *Professor Grainger Stewart* introduced a series of cases as illustrations of the condition described by Professor Westphal of Berlin as KNEE PHENOMENON and FOOT PHENOMENON, and by Professor Erb of Heidelberg as TENDON REFLEX. These gentlemen had each independently discussed the phenomena, and they described them in the same number of the *Archiv fur Psychiatrie und Nervenkrankheiten* three years ago. The condition may be demonstrated in connexion with many muscles, but is most conveniently shown in connexion with the quadriceps extensor femoris and ligamentum patellæ. By tapping firmly and suddenly on certain parts of that tendon when the leg is in a semiflexed position, reflex contraction of the quadriceps is produced, and the foot is jerked forward. The amount of irritability varies in different individuals, but is never absent in healthy people. In various diseases it becomes altered. Westphal, Erb, and Berger have shown that it is invariably and completely absent in the advanced stage of locomotor ataxia; and, quite recently, Westphal has announced that he has found its disappearance one of the earliest reliable symptoms of that disease. In chorea, the irritation has been seen to lead to extensive and irregular movements; and there are various other modifications in cerebral and spinal diseases. The first patient introduced was a boy suffering from right-sided hemiplegia with partial aphasia. In the left leg, the phenomena of ordinary natural reflex movement was exhibited on tapping the tendon. On the right leg, it was shown that the tapping was immediately followed by the usual jerk; but that the contraction inducing this jerk persisted, so that the leg was maintained for some seconds in a state of partial extension. This condition is associated with various other peculiarities in regard to the function of the muscles, which it was not desired at present to bring under the attention of the Society. The second case was that of a man suffering from well-marked locomotor ataxia with extreme spinal myosis. In him there was absolutely no tendon reflex to be elicited; while reflex action was readily produced by tickling the soles of the feet. The third case was another example of locomotor ataxia, associated with some degree of multiple sclerosis. In this case also the tendon reflex was shown to be completely lost. The fourth case was that of a young man who exhibited certain of the symptoms of locomotor ataxia, viz., an ataxic, though not characteristic gait, with increase of unsteadiness on closing the eyes. In this patient there was an increase of the tendon reflex, and Dr Stewart pointed out that, according to Westphal's recent observations, this would tend to confirm the diagnosis which had been arrived at from a general consideration of the symptoms—that the case afforded an example of another spinal affection, different from the gray degeneration of the posterior columns. Reflex movement on tickling the soles was natural or slightly exaggerated.

II. *Mr Bell* showed the PATIENT whose leg he had amputated at the hip-joint for a large malignant tumour of the thigh. The tumour itself he had shown at a previous meeting. This case was as yet the only one where antiseptics had been successfully carried out in amputation at the hip in an adult. They could now see the line of union of the flaps, and the large part at the inner angle which had healed by first intention.

The *President*, Dr Gillespie, remarked that he had never seen a patient suffer less from shock. He had watched him from the day of operation, and had always found him more like a patient with a finger amputated than one whose leg had been removed at the hip.

III. *Professor Annandale* showed—(1.) A boy who had suffered from REFLEX PARAPLEGIA. He was admitted six weeks ago with the history, that shortly after beginning to walk he had weakness in the legs and a tendency to fall. When lying in bed he could not get up. There was no spinal nor brain disease apparent, and the paraplegia was incomplete, as he could walk and stand to a certain extent, while sensation was unimpaired and the sphincters unaffected. A few years ago Mr Annandale had a conversation with Sayre of New York, who sent him some pamphlets on this subject. The boy had congenital phymosis, and therefore, on the supposition that it was related to the paraplegia, he circumcised him on 19th December. The result was marked improvement, as he could now stand pretty steadily, kick out when he was lifted from the ground, and walk better. It was evident that the muscles were not right yet, and he was accordingly getting the galvanic current applied. (2.) A young lad who had suffered from a RARE INJURY. While out bird-nesting, he fell down a precipice and got a fracture of his right arm, several cuts, and a compound separation of the lower epiphyses of the radius and ulna, the shafts being protruded for about 1½ inches, while the epiphyses remained attached to the wrist. In such cases amputation was generally performed. In this case, however, he cut off the protruding part of the radius and ulna, and also removed the epiphyses, inasmuch as they got their chief nourishment from the shaft. The result was a good one, and the patient had now a useful hand, although about three inches of bone had been removed.

The *President*, after thanking the gentlemen who had shown such interesting specimens, then delivered his valedictory address.

Professor Sanders, *President-elect*, then took the chair. It was not customary to deliver any speech, and he would accordingly only tender them his sincerest thanks for the honour they had conferred on him in electing him their President. The honour was a valuable one, not only because their presidential chair had been filled by most excellent and eminent men, but also because there could be no higher position than to preside over a society whose objects were the diffusion of medical knowledge, the culture of medical science, and the improvement of medical teaching. He trusted that by the communications brought forward, the members would keep up the interest of the Society, and make the ensuing session as profitable and instructive as past ones. So far as in him lay, he would endeavour to promote the objects, maintain the dignity, and forward the interests of the Society.

EXHIBITION OF PATHOLOGICAL SPECIMENS.

IV. *Dr Argyll Robertson* showed a TUMOUR removed from a man beyond the middle period of life. It occupied the floor of the orbit as far back as the optic foramen. The eye protruded forwards, upwards, and outwards. As it was growing rapidly and other treatment had failed, he removed it, leaving the eye behind. It was difficult to separate it from the surrounding tissue; and, while doing so, he found a perforation of the inferior orbital plate into the antrum. The tumour appeared, however, to be removed entirely, and he at the time hoped permanently. On examination, however, it proved to be scirrhus, as it was concave on section, very firm in texture, and with a fine serum containing numerous typical cancer-cells. As scirrhus of the orbit was rare, he had shown it to the Society. He only wished further to mention that the preparation had been kept in chloral.

V. *Mr Bell* showed specimens of (1) EPITHELIAL CANCER OF THE NIPPLE AND SCIRRHUS IN THE SAME MAMMA; (2.) SARCOMATOUS TUMOUR FOLLOWING AN INJURY. As the hour was well advanced, he would say nothing more about the specimens than that the drainage had been conducted according to the method of Mr M'Gill of Leeds. This consisted in having a long drainage-tube with the part within the dressing perforated with holes. The part outside was nonperforated and dipped into a jar containing carbolic lotion. Although the cases were unfavourable, yet rapid union had taken place. By it they could now avoid frequent interference with the dressings. The plan had been brought under his attention by Mr Chiene.

VI. *Dr Kirk Duncanson* demonstrated on a skull a CURIOUS INJURY a little girl had received. By an accidental blow, a knitting-needle had been driven through the orbit into the pharynx.

VII. *Dr Church* showed a SALIVARY CALCULUS, 1¼ inch in length, which appeared to have been long the cause of enlargement and tenderness of the submaxillary and sublingual glands. After the removal of the calculus from the right side of the *frænum linguæ*, the enlargement of the glands disappeared in a few days.

VIII. *Dr Byrom Bramwell*, Newcastle-on-Tyne, read his NOTES ON CASES OF ANEURISM, which will appear in a future number.

The *President*, Professor Sanders, was sure that all were interested in Dr Bramwell's cases. He regretted that the late hour would prevent discussion, but he would be glad to hear any remarks.

Professor Grainger Stewart congratulated the Society on having heard this communication from Dr Bramwell, who, although educated in this university, was practising in England. The paper must have interested all the members, but especially those engaged in hospital work. The clearness and precision of statement implied very careful observation at the bedside, and made him (Dr Stewart) hopeful as to what the author might in future do. It was gratifying to the Society to have a further confirmation of the value of the treatment so strongly recommended by Dr G. W. Balfour. There were so many points of interest in the communication, that he felt it would be most satisfactory if he could sit down for an hour or two with Dr Bramwell and quietly go over the different cases. He would refer to one or two points. First, the case in which there was unilateral sweating and alteration of one pupil. He should like to know what that alteration was—dilatation or contraction. He had met with cases in which dilatation, and others in which contraction was present. Second, the case in which the two radial pulses were unequal, although the aneurism was in a position which could not have abstracted the arterial blood-supply to either side. There was much interest both in the question of inequality of pulses and in that of delay. As there was no apparent explanation in the report, he should ask Dr Bramwell whether he had been able to elicit any explanation of the facts in this case. Third, the case of abdominal aneurism, with complete obstruction of the aorta. The kidney lesion in that case was probably due to closure of one of the renal arteries. He had watched last year a case in which the superior mesenteric artery was completely occluded by an aneurism, and in which the fatal result was preceded by slight signs of gastro-intestinal irritation, with marked depression of the vital power. At the autopsy the portion of intestine supplied by the superior mesenteric was found congested, and its mucous membrane in many parts the seat of extravasations. This was a mode of termination of such cases which had been previously described, and it was of some interest in connexion with Dr Bramwell's case. Another mode of termination, which he thought rare and worthy of mention, was rupture into the retroperitoneal cellular tissue. He once examined after death a case of the kind, in which the hæmorrhage had taken place somewhat slowly, and consequently a large fluctuating tumour existed in the back of the abdomen. The physicians in charge of the case had considered the question of the swelling being a retroperitoneal abscess, and the propriety of free incision had been discussed. Fortunately this was not done. He would not take up the points, but expressed his appreciation of the paper.

Dr Black, as a military surgeon, had seen many cases of aneurism. Its causes were many. Dr Bramwell had stated that syphilis was often present. Dr Welsh had shown that syphilis was present in 48 per cent. of a series of cases, and some had even along with heart disease rated the proportion at 60 per cent. How syphilis produced it was not clearly demonstrated, although nodular deposits in the arterial walls had been described as such. Rheumatism was said to cause atheroma, but in 18 per cent. there was no diathesis of any kind. Alcoholism he believed to be one great cause of aortic disease, especially constant drinking or "soaking." Drunkenness was controlled from being a punishable crime, but for this vice there was immunity and plenty of opportunities. The nature of the dress and work of the soldier seemed to be exciting causes. Alluding to the geographical distribution of aneurism, it was stated to be most prevalent in India, Australia, and the Cape, and least so in the humid tropics and cold northern regions of Canada. Dr Black concluded by expressing his gratification with the paper.

The *President*, Professor Sanders, mentioned that he had been consulted by a surgeon as to the propriety of opening with antiseptic precautions a swelling on the chest wall. The swelling on examination proved to be aneurismal.

Dr Bramwell was extremely obliged to the members for their kind criticisms, and especially to Professor Stewart for his very complimentary remarks. In the case of unilateral sweating the right pupil (*i.e.*, that on the affected side) was sometimes larger, sometimes smaller than the left. A constant relation was, however, observed between the sweating, the size of the pupil, and the temperature. When unilateral sweating occurred, the right pupil was always smaller than the left, and the temperature under the right ear at least one degree lower than on the opposite side. When the right side of the face was not in a state of unilateral sweating, the right pupil was either equal to or larger than the left, and the temperature under the right ear was higher. In Case 2 he had not found in post-mortem any satisfactory cause for the difference in size of the two pulses. The hour was so late that he could not do more than thank Dr Black for his remarks, and simply state that five of his ten cases had had syphilis.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING IV.

Wednesday, 9*th Jan.* 1878.—Dr DAVID WILSON, *President*, *in the Chair.*

PUBLIC BUSINESS.

I. *Professor Simpson* exhibited a preparation of HYDATIGINOUS DEGENERATION OF THE CHORION. The patient, a young unmarried woman, had menstruated up to last October, and became pregnant thereafter. She speedily began to suffer great losses of blood. On admission lately to hospital, the hydatid mass was spontaneously expelled a few hours after. The mass presented the usual appearances. Some portions of the decidua were attached. Patient was progressing favourably towards recovery.

II. *Dr Peel Ritchie* showed the PLACENTA OF A CHILD born one week before full term. It weighed half a pound, and the child, a male, 5 lbs.; the cord was 21 inches. The mother in the early months had suffered greatly from vomiting, so severely that the induction of premature labour was contemplated. Up to the time of delivery, the patient had suffered from persistent loss of memory, although in other respects her general health was good.

III. *Dr Halliday Croom* read a paper on RETENTION OF URINE IN THE FEMALE, which will appear in a future number of this Journal.

IV. *Professor Simpson* read the following note on a case of PLUM-STONE IN THE RECTUM:—On the evening of Friday, 24th August 1877, a healthy young lady was delivered after a short and easy labour of her first child. On the two following days her condition was most satisfactory. At my visit on Monday morning, also, there was nothing amiss, and the bowels, which had acted on the morning of her confinement, were now moved for the first time since by a dose of castor-oil. I was surprised, therefore, by receiving an urgent message between six and seven o'clock in the evening to go and see the patient. On arriving, I found that she was suffering from retention of urine. She believed that the bladder had been relieved when the bowels were moved, but had had a sense of need for micturition, and had made a series of ineffectual attempts during the afternoon till the distress had become intolerable. I suggested the adoption of the various ordinary expedients, and, as I named them one after another, the old experienced nurse who waited on her laughed, and said, "We've tried everything. You must just use the catheter." I have a strong aversion to the precipitate use of the catheter, as I do not think its introduction even into the female bladder is a matter of indifference. I was curious, moreover, to discover a cause for the inability to empty the bladder which had supervened so mysteriously. Having seen cases where the condition was associated with hæmorrhoids, I inquired whether the patient had ever suffered from piles, and ascertained that before her marriage she had some little trouble from that cause, and that since the evacuation of the bowels in the morning she had had some slight discomfort that reminded her of her former trouble. An examination per anum was proposed and agreed to. Immediately within the sphincter ani I came upon a hard body that made me for a moment think of a scybalous concretion; but the transitory impression was removed as the tip of the finger passed beyond it and recognised it as a plum-stone, the sharp point of which had got entangled in the mucous membrane just at the upper border of the sphincter posteriorly. A slight push upwards sufficed to dislodge it from its position. I then pressed it against the posterior wall of the rectum, and catching it with its thicker extremity against the distal and the more pointed extremity against the next phalanx of the index finger, I extracted it without causing the patient any suffering. When the examination was completed, she was surprised at being asked if she had been eating plums since her labour, and confessed to having enjoyed a plum-tart the day before her confinement, and to having had some misgivings that she had then swallowed a stone. The bladder was speedily relieved by the natural efforts. On inquiring for the *corpus delicti*, however, on my return, the careful old nurse said she had put it in the fire, that it might not give anybody any further trouble. The discussion on this case and Dr Croom's paper then took place.

Professor Simpson brought forward this case in connexion with Dr Croom's very able essay, as the most striking illustration he had met with of reflex cause of urinary retention. In regard to that he thought it extremely interesting and of high practical value. The cases had been brought together in a scientific manner and carefully narrated, without being overloaded with extraneous matter. He was not satisfied, however, that Dr Croom was altogether justified in the relation that he maintained to subsist between retention and the retroversion of the gravid uterus. While the immediate retention and impossibility of evacuation of the urine was doubtless caused by the uterine displacement, yet in some of these cases habitual inattention to the calls of nature, and over-distension of the bladder, might have aggravated the tendency to the retroversion of the uterus.

Dr Keiller agreed with Professor Simpson as to the character of Dr Croom's paper, which he had listened to with great interest. He had seen a great variety of cases, and many similar to those referred to. The first one related by Dr Croom reminded him of an interesting case he had witnessed many years ago. In this case the uterus was gravid and retroverted; the urine was drawn off, and a tumour was found pressing into the hollow of the sacrum. This case he always retained a lively recollection of, as being the first one in which he had recourse to intravaginal stethoscopy, the uterine murmur of pregnancy being readily heard by auscultation per vaginam. In retention of urine in the female, he thought two causes mainly operated,—1*st*, too long voluntary retention; 2*d*, long-continued pressure during pregnancy and labour. Dr K. had not traced retention to lacerated perineum, of which he had ample experience.

Dr Ritchie thought the sudden occurrence of the retroversion a cause of retention. He had for long regarded two causes at work, the uterus being displaced before pregnancy, and the bladder being allowed to be distended too long. In the latter condition, a shock such as had been spoken of might produce complete retention in the early months of pregnancy. As to laceration of the perineum as a cause, he alluded to the fact that, in Dr Matthews Duncan's recent paper read to the Society on this subject, it had been brought out that in not one of the cases recorded by him had retention occurred from that alone; injury of the vestibulum was necessary. A reflex case had happened in his practice of retention after the application of a blister. The patient was hysterical, had been previously catheterized by an American female physician, and, on her arrival in this country, injured a knee-joint, for which her medical adviser applied a blister, and she subsequently came under his care for retention, which he could not overcome without the catheter.

Dr Macdonald commended the paper. He differed from Dr Croom in his opinion as to frequency of retention in perineal rupture. In his experience, this cause had not operated in the way of causing retention. He referred to Olshausen's theory, in which he ascribed retention to acute flexion of the urethra from normal anteversion of the uterus after delivery.

Dr Wilson thought, in the majority of cases, retroversion gave rise to the retention, not the retention to the retroversion.

Dr Croom briefly replied. While he believed that a distended bladder might, in cases of a sudden shock, render retroversion of uterus more likely to occur, yet the retention of urine in the great majority of cases was the result of retroversion of the uterus existing before conception.

V. Case of Cephalotripsy by *Dr Keiller*. *Dr Keiller* exhibited a large child he had delivered by cephalotripsy. The cephalotribe used was still *in situ*, as at time of operation. It occurred in the practice of Dr John Moir, jun. The patient, 35 years of age, previously had borne five children at full term—the *first*, a female, born naturally without instrumental assistance; the *second*, a male, born with instruments, the marks of which still are seen on the neck; the *third*, a male, dead-born, with instruments; the *fourth*, a female, dead-born, with instruments; the *fifth*, a female, safely without assistance; the *sixth*, or present child, a male, dead, by cephalotripsy. When Dr Keiller visited the patient she had been many hours in labour; the head was in the third position at the brim. He tried to turn, but the uterus being firmly contracted it was not found possible. He then applied forceps, which slipped. Perforation was then had recourse to, and the crotchet applied, but without avail. The cephalotribe was then used, and with the satisfactory result which the preparation he now exhibited sufficiently demonstrated. The cephalotribe was one of his own construction, much smaller than those in general use, but, in his experience, an instrument of great usefulness. After delivery, he found the pelvis measured 3½ inches in its conjugate diameter. In this case, he thought possibly turning might have proved successful had it been resorted to in time. In referring to the various kinds of instruments suitable for craniotomy or cephalotriptic purposes, Dr K. expressed his strong conviction in regard to the unduly powerful instruments which some of our most distinguished obstetricians deem it necessary to have forged into baby-head crushers. He always considered it a very important matter in obstetric and other operations to have the required instruments as free from bulky ponderosity as possible, for although size was usually considered to be a measure of power, such was by no means a correct evidence of the amount of force required in ordinary cases of cephalotripsy, where the diminishing, and, if need be, directing an unusually large or too tightly fitting fœtal head through contracted or unduly narrow maternal passages are alone required. He had ceased to look upon the operation of cephalotripsy as a measure merely intended for, or only calculated to meet exceptionally desperate cases of pelvic contraction; in such cases, for example, as the present and in other craniotomy requirements, apart from extreme distortion, a well constructed, and, at the same time, sufficiently *handy* crushing-extractor, would be found suitable for their comparatively easy and successful termination. In the preparation now exhibited, the crushing power of Dr Keiller's cephalotribe was most satisfactorily proved, while the sinking of its blades deeply into the effectively crushed fœtal head beyond the risk of mischief to the maternal passages was unusually well illustrated, a point to which Dr Keiller directed special attention, as it went to show the safety with which such an instrument could be allowed to remain on the head, and the ease with which it can be guided during the movements of its descent, rotation, and expulsion, all of which, with due attention to the special mechanism of the case in hand, can be, in most cases, greatly expedited, without the necessity of removing the instrument.

Dr Macdonald had, within the last two months, met with two cases of almost a similar nature to that just related by Dr Keiller. In the first one, the previous labours had been terminated by forceps. On this occasion forceps were applied, but slipped; being reapplied, they held firmly, but it was found impossible to extract. He then performed craniotomy with success. The pelvis was 3½ inches anteriorly. In the second case, a second labour. The first labour was natural and terminated without assistance, the child now living. On the present occasion the forceps were applied, but slipped. Craniotomy was then performed. Some difficulty was experienced in extracting the shoulders. The child was a very large one, the pelvis of natural size. The case exemplified the fact that dystocia was not always necessarily caused by contracted pelvis. He thought Dr Keiller's instrument a most useful one. It was readily applied after perforation, being much preferable to the larger instrument, which was intended to be used without perforation.

Part Fourth.

PERISCOPE.

(*Concluded from p.* 558).

ON THE TREATMENT OF ANOMALIES IN THE SPANNING OF THE DRUMHEAD. By Professor Dr JOS. GRUBER.[1]

Still much more interesting was the course of the disease as well as the result of the operative treatment in the following case:—

CASE II.—*Relaxation of the Posterior Segment of the right Drumhead, giving rise to Difficulty of Hearing and Noises in the Ears; Application of the Galvano-cautery; Cure.*

J. K., 30 years of age, an instructor of gymnastics, etc., from Siebenbürgen, states that he suffered from pains in his ears in his earliest years. He tells us, what is worthy of notice, that about that time there was some one who would relieve him of his deafness, and used for that purpose a piece of linen-cloth, impregnated with wax, placed upon a glowing coal, the smoke of which was conducted by means of a funnel-shaped tube into the external auditory meatus. The patient believes that this procedure did no more for him than produce pain; still it was frequently applied. Before and after this treatment, there occurred, as regards his hearing power, times of improvement as well as of impairment; but all his suffering did not prevent him from being received into a military training institution where he could finish his studies.

In the year 1858, he happened to be near to a cannon when it was fired. The concussion caused him to suffer from a very considerable amount of deafness for three days, which, however, disappeared without further interference.

Probably it was about this time he observed that the mucous membrane of his nose and mouth was affected; he was very frequently obliged to use his pocket-handkerchief, and to hawk up mucus from his throat, and notwithstanding the use of many remedies to get rid of this condition, it remained the same. After this his hearing power appeared always more impaired; but he was able to obtain an improvement of it by forcing air into the ears with his mouth and nose closed as he describes.

As time went on the application of this manœuvre was on the whole unsatisfactory, as it frequently happened that the air did not enter the tympanum, and if it did do so, the improvement caused lasted always for a shorter time. In the year 1864, notwithstanding that the patient had been under medical treatment for a long time, he became so deaf that he could not properly perform all his military duties.

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[1] *Monatschrift für Ohrenheilkunde*, October 1877.

About this time he sought for help, for the first time, in my ambulatorium in the General Hospital. I found the appearances of a very severe catarrh of the nose, pharynx, and middle ear, and, at the same time, a high degree of relaxation in his right drumhead. As the case was one of much interest clinically, I had drawings made of his right drumhead, which the reader will find in Table II., Figs. 37 and 38, of my *Lehrbuch der Ohrenheilkunde.*

I treated the catarrh at that time in the usual manner, and specially with the help of the catheter. As the intelligent patient obtained benefit from this treatment, he procured for himself, without consulting me, a catheter (Eustachian) and an air-balloon, studied passing the catheter, and treated himself in the following years.

In the year 1864 he was discharged, being unfit for military service, and since then he has been engaged in Vienna teaching gymnastics. Not satisfied with the precarious state of his hearing organs, he sought again help in my clinique in the General Hospital in December 1876, when we found his condition to be as follows:—

The strong vigorous patient complains of constant noises and difficulty of hearing in both ears. Especially great is the latter in his right ear. His head is quite prepossessed with the noises, and he remarks very especially that the damp weather has an injurious influence upon his hearing. Occasionally, it happens that he obtains relief through the application of the Valsalvian method of inflating the tympanum; but most frequently after a strong application of the air-douche, with the assistance of the Eustachian catheter. This does not last long, and, indeed, the duration of the improvement after such treatment is reduced always more and more.

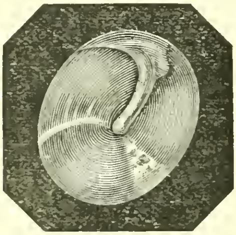
Fig. 1.

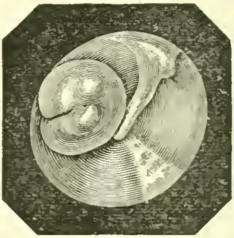
Fig. 2.

The objective examination shows:—

Left Ear.—External auditory meatus quite normal and wide. The drumhead is somewhat dull; considerably fallen in. By the Valsalvian method, the posterior superior quadrant is pressed forwards more than usual.

Right Ear.—External auditory meatus normally wide. The drumhead, which can be seen in its whole extent, is very much fallen in. The malleus is prominently visible. On the posterior superior quadrant we observe the contour of the posterior pouch of the drumhead, under which, the rest of the drumhead has fallen very much further inwards. From the lower end of the malleus handle there is a white arched line, stretching backwards as far as the point of insertion of the drumhead[1] (see Fig. 1). From this arched line there are many shorter lines or markings, parallel to one another, stretching upwards, which disappear in the substance of the drumhead above the arched line. Under this long bow-shaped line we do not observe any such parallel linear markings.

If we now permit the patient to perform the Valsalvian method of inflating the tympanum during our examination, or if we make use of the air-douche, by either of these we see arching itself forwards into the external meatus like a bladder a portion of the posterior segment of the drumhead. As the illustration shows, this bladder-like portion is divided by a groove into two segments, the one situated above the other. This groove in its course corresponds with the bow-shaped line seen in the usual position of the membrane in its posterior segment. Each of the bladder-like projections above and below the groove has one or two small bulgings.

If we now continue to observe the drumhead for some time longer, so we see after a few minutes the bladder-like projection disappear gradually, and then we see the drumhead as in Fig. 1.

The movements which the drumhead makes are felt quite distinctly by the patient, and especially he notices on its return to its usual place a distinct click. The statement of the patient that he hears better "by the pressing out" of the drumhead, and that this improvement lasts so long as the drumhead remains in its artificially produced position, could be fully confirmed with the help of the watch. *Whilst the patient does not hear the watch on this side before the Valsalvian method, when pressing it upon the auricle, he catches it quite distinctly on laying it upon the auricle after the application of the Valsalvian method* of inflating the tympanum. By placing the watch upon the bones of the head, he hears it neither before nor after the Valsalvian method. The perception of spoken words corresponds to the better or worse perception of the watch according to the position of the drumhead; and in order to be brief, I will at once state that the method of examination with the tuning-fork given by me (see No. 8 of this *Monatschrift*, page 2), page 557, *Edinburgh Medical Journal*, gave a result which points to the diagnosis of relaxation of the drumhead, and indicates removal of a portion of the relaxed membrana tympani.[2]

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[1] To be more easily understood, the figures are double the natural size.

[2] To a full estimation of the condition of the drumhead, I will mention here that I considered what we have called the visible arched or bow-shaped line on the posterior portion of the drumhead as the mark of the insertion of a false membrane which formed an abnormal union between the drumhead and the inner wall of the tympanum. On account of this, a furrow would arise in

I determined then, with the consent of the patient, and in presence of my students, on the 28th December 1876, to remove the greater part of the relaxed portion of the drumhead, by an operation carried out quite in the same manner as in the former case. The pain during the operation was extremely slight, and the further history of the case treated as an out-patient was shortly as follows:—

29th December 1876.—By the Valsalvian method of inflating the tympanum, the air rushes through the hole in the drumhead. The patient suffers no pain, and states that he understands better what is spoken. There are still adhering some burned scabs to the edge of the wound.

30th.—Pulsating light-spot within the opening. Patient hears the watch by gently pressing it upon the auricle.

2d January 1877.—No pains; no fever; in the immediate neighbourhood of the moderately reddened edge of the wound, very little thick yellow exudation. By the Valsalvian method, noises distinctive of a perforation of the M. T. Hearing distance as on the 30th December 1876.

3d.—Moderate swelling of the soft parts of the external auditory meatus; no fever.

4th.—The swelling of the soft parts of the external auditory meatus has not increased. Slightly increased sensibility. Patient hears the watch as well by placing it on the auricle as by placing it on the mastoid process and zygomatic.

11th.—Without the swelling in the external auditory meatus, forming an abscess, it continued diminishing up till to-day. The perforation's opening in the drumhead is already smaller. The pulsating light-spot, often distinctly seen, can be seen no more. The hearing distance is as on the 4th.

22d.—No trace of exudation in the deeper parts. The perforation's opening very small. The noise arising from the air passing through the opening is very fine, scarcely perceptible. The patient hears the watch by the most gentle touching of the helix.

30th.—Hearing distance for the watch 1 cm.

On the 25th May 1877, I placed the patient before the meeting of the Imperial and Royal Association of Medical Practitioners. The opening in the drumhead is cicatrized. By the Valsalvian method, the drumhead is well pressed forward into the external auditory meatus, but there is no trace of the bladder-like projection to be noticed. He understands usual conversation without the least difficulty; the watch he hears at one time at a greater distance, at another not so far, but never less than 2 cm. before the auricle; his former noises in the ear are considerably lessened,

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the projecting forward bladder-like portion of the drumhead, arising from the application of the Valsalvian method. The end of this line uniting with the malleus handle, as well as the delicate lines running upwards from the same, are the expression of folds formed in the relaxed state of the membrane.

but are not quite gone. As a test we allowed him to perform the Valsalvian method of inflating the tympanum very frequently, when we could convince ourselves that he hears the watch at an equal distance both before and after. The patient is so satisfied with the result, that he has frequently requested us during the clinique to perform the same operation on his left ear. This fact speaks well of itself.

Professor Dr Gruber has very kindly lent the woodcuts for the illustration of this case.—J. J. K. D.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By William Craig, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

Therapeutic Virtues of the Eucalyptus Globulus.—In the February number of the *Edinburgh Medical Journal* there is an interesting and instructive note on some of the therapeutic virtues of Eucalyptus globulus by Mr Benjamin Bell. The preparation used by Mr Bell was the tincture, and he seldom prescribed more than a teaspoonful, mixed with a wine-glassful of water twice a day. Mr Bell says, "In several cases of bronchitis with profuse expectoration, I have witnessed remarkable benefit after a very brief use of the remedy, evinced by a rapid diminution of the discharge, and also by a corresponding improvement in the general condition of the patient." Mr Bell recommends it in certain forms of disease of the stomach and bowels. He relates several cases of ulceration or some other organic disease of the stomach in which the internal use of this drug proved of great benefit. He also found it of manifest use in a case of diphtheria, and recommends its use in certain cases of typhoid fever.

A New Revulsive.—Dr Couturiers recommends the use of a new revulsive obtained from an extract of red pepper. When rubbed up with any of the ordinary vehicles, and spread on thin paper, it is readily employed in the same manner as blistering paper. The action of this revulsive is rapid. The skin soon becomes reddish, warm, and the seat of a prickling sensation. These symptoms continue for about three hours, but never amount to anything resembling pain; nor does the action of the revulsive extend to the surrounding skin. It may, in fact, be compared to a sinapism continuing to act equally for twenty-four hours, after having produced a moiety of its usual effects. The red pepper revulsive is indicated in all cases where the medical attendant desires to produce revulsion rapidly, and keep it up for a considerable time—in acute or chronic inflammation, for example, of the throat and bronchial tubes, in congestion of various organs, in rheumatic or neuralgic pains, etc. The patient will, of course, be cautioned against conveying any portion of the substance to the eyes or lips. When the paper has been removed, the surface may be dusted with powdered starch, which at once arrests any feeling of heat or prickling that may remain.—*Medical Examiner,* 31st January 1878.

ADMINISTRATION OF QUININE.—Speaking of the treatment of malarial fever, Dr Thomson, Professor of Materia Medica and Therapeutics in the University of New York (*N. Y. Med. Record,* 17th Nov. 1877), makes the following observations:—"The administration of the quinine in this case, *i.e.*, fever and ague, should be preceded by a cathartic—it will facilitate its absorption. What is it that embarrasses absorption of quinine in such cases? It is gastric supervening upon portal congestion, thus hindering the absorption. Quinine, morphia, and all the vegetable alkaloids, if they remain for much length of time in the alimentary canal, and are subjected to the action of the ordinary chemical fluids there, become so changed as to lose largely their special properties. These remedies, therefore, should be given upon an empty stomach. It is not unfrequently the case, as is well known, that quinine, on account of disturbance in the stomach, is not absorbed, even if it be retained. In such cases, resort may be had to the hypodermic use of the drug." "Is there any means," Dr Thomson asks, "by which the effective dose of quinine may be diminished?" Capsicum, combined with quinine, will diminish the size of the dose requisite, and the same may be said of ginger and other aromatics. A good dose of capsicum combined with twenty grains of quinine, will act as well as thirty grains of quinine without the capsicum. Spices, in general, stimulate the portal circulation, and promote the flow of bile, and hence their universal use in hot climates. There is a tendency on the part of quinine and capsicum to purge, and sometimes to purge violently. In such cases, the purgative action is caused by the increased flow of bile produced by the capsicum. Ginger and quinine, when combined, do not purge, and it makes a very good combination. If the medicine is administered in the form of pills, capsicum may be preferable, because of the less bulk required; but, if desirable, the ginger may be given separately, and with the same effect as when combined with quinine. The proportions should be one grain of capsicum to three of quinine; with ginger, one grain of each. There is constant failure in the treatment of malarial poisoning by the use of quinine, and nearly always it arises from the manner in which the remedy is administered. The point to be obtained is the quick absorption of the quinine. Suppose, for example, you are called upon to prescribe in a case of malarial poisoning in which there is almost continuous vomiting, as in bilious fever. If there is gastritis present, there will be tenderness upon pressure at the pit of the stomach and in the region of the gall-bladder; there is apt to be some swelling of the epigastrium, and the patient vomits as soon as anything is taken. It is useless to administer quinine by the mouth under such circumstances, because the excessive irritation which it produces upon an inflamed mucous membrane causes its rejection at once. If injected into the rectum under the same circumstances, it will not succeed any better, because rectal absorption is diminished on account of portal obstruction. Now, if you will apply two or three leeches at the epigastrium, the vomiting will be arrested almost certainly, and you will be able to get the quinine absorbed. Do not use either mustard or blisters here to arrest the vomiting, for they are vascular stimulants. Topical bloodletting, on the other hand, is a prompt vascular sedative.—*The Dublin Journal of Medical Science*, February 1878.

ON THE EXPERIMENTAL USE OF AMYL NITRITE IN PERTUSSIS.—In a report read before the Medical Society of the State of New York, Dr George Bayles commences by the following quotation:—"Dr Sawarowsky writes to a St Petersburg Medical Journal, recommending the inhalation of a mixture containing ℥i. of chloroform and three drops of nitrite of amyl in whooping-cough. Besides this, he administers for three days, at intervals of two hours, a powder composed of the cyanide of silver and pure argil or alumina—one-twelfth of a grain of the former, and three grains of the latter. He likewise advises prohibiting the use of articles of food and drink that are hot or quite warm. The writer says that, under this plan of treatment, the most obstinate cases have yielded within a few days." At the time of making his experiments, Dr Bayles had no idea that the value of this agent had been tested in whooping-cough. Until comparatively recently, he observes, nothing in medical science had been discovered sufficiently potent either to avert the invasion or abridge the progress, in any appreciable degree, of this distressing malady. To abate the violence of the chief symptoms ever so slightly, will be to effect an excellent result, as nothing but the hard, exhausting cough need be regarded either as an element of danger, or of special inconvenience in this disease. The complications which sometimes arise in certain of the unfavourable cases of pertussis are always induced and sustained by this one superdominant symptom, whatever may have been the predisposing systemic conditions. In quinine there appears to be a real antidotal action to the specific root element of this disease (whatever that may be); therefore, an under-current of quinine, so to speak, kept up throughout the progress of the disease cannot but be of advantage. Chloral is a sedative nervine of very efficient action, and beneficial, in an eminent degree, where nervous excitement is intensified by the apprehension of an approaching paroxysm of coughing. This agent, therefore, proves most serviceable in the cases of the elder patients. Amyl comes in as a direct anticipatory measure for the relief of the cough as to its frequency, and also as to its pacification as to paroxysmal energy. Dr Bayles then gives a series of ten cases which show that the nitrite of amyl is able to allay the characteristic and most distressing symptoms of whooping-cough; that no antagonism exists between it and, at least, one approved and valuable remedy, viz., quinine; and that it is not necessary to suspend the use of amyl at any time in consequence of danger arising from the too-powerful action of any of its physiological properties. Dr Bayles has seen satisfactory notes of the employment of nitrite of amyl in cephalalgia, hemicrania, facial neuralgia, the cough from congestion of the fauces and the whole respiratory tract belonging to acute bronchitis, in trismus nascentium, hysterical convulsions, cardialgia, gastralgia, colic, cholera, dysmenorrhœa, puerperal convulsions, lead colic, hiccough that resisted all other treatment, blepharospasmus, various forms of spasm, cold stage of intermittents, sea-sickness, choroform narcosis, etc. In all these cases the action has been most favourable, and worthy of repetition (*Virginia Medical Monthly,* August 1877).—*The Practitioner,* February 1878.

CARRON-OIL LINIMENT IN THE TREATMENT OF FISSURE OF THE RECTUM.—Trousseau, in his clinical lectures, has passed in review all the ordinary methods of treatment of this troublesome and painful disease, and regards as the most successful, injections of ratanhy, according to a formula he has adopted. Even this, however, is not always successful, and Dr Carrére states that, in a case where this, as well as many other measures, failed, he obtained a successful result by using the carron-oil liniment. With a small pledget of lint he bathed the fissure three or four times a day, and at night introduced a little suppository, thoroughly moistened with the fluid, into the anus. A cure was effected in eight days (*La Province Médicale,* No. 5, 1877).—*The Practitioner,* February 1878.

ALCOHOL IN DIPHTHERIA.—Dr Chapman, of Brooklyn, is reported to have discovered a very efficient remedy for diphtheria, by means of which he has been able to reduce the mortality of these cases to one in fifty. The remedy consists in the early administration of alcohol, in large doses, followed by the use of quinia. The alcohol is said to reduce the feverish symptoms, and hasten the separation of the false membrane from the pharynx, and even from the trachea and larynx, when they are implicated, whilst the action of the heart is stimulated, and the system enabled to bear up against the depression of the acute stage of the disease. Dr Chapman states that alcohol given during the course of a diphtheritic attack does not act as a stimulant, nor induce any of its ordinary effects; whilst he has further observed that drunkards are remarkably free from liability to diphtheria.—*Medical Examiner,* 10th January 1878.

HYDROBROMATE OF QUININE IN DISEASES OF CHILDREN.—Dr Stenitz of Breslau uses hydrobromate of quinine extensively in whooping-cough, giving it generally in a mixture composed of 3 to 5 parts of the hydrobromate in one thousand of syrup, the dose being a teaspoonful every 2 hours. The whooping-cough, in 23 cases, lasted on an average 10 weeks; and in 15 others, 12 weeks;

and in the use of the remedy the paroxysms became in the course of a week less frequent and milder. No after effects on the alimentary canal were discovered. Three deaths occurred, all in very atrophic and scrofulous individuals, in whom other complications were present. He also used the hydrobromate in nine cases of spasm of the glottis; three of these cases died, and the remainder recovered. He regards this salt as deserving a trial in the dental convulsions of children.—*Allgemeine Med. Central-Zeitung,* quoted in *Lond. Med. Rec.* 15th Feb.

Part Fifth.

MEDICAL NEWS.

List of Indian Medical Candidates, who were successful at both the London and Netley Examinations, having passed through a course of instruction at the Army Medical School, Netley, February, 1878.

	Marks.
*†1. Thomson, S. J.	5008
2. Campbell, R. N.	5000
3. Brander, E. S.	4972
4. Manser, R.	4885
5. Chatterjie, F. C.	4719
6. Emerson, G. A.	4565
7. Adey, H.	4500
8. Koyaji, B. N.	4290
9. Street, A. W. F.	4130
10. Jervis, H. P.	4065
11. Tully, E.	4050
12. Davidson, D. C.	3985
13. Bennett, C. H.	3942
14. Peacocke, J. C. H.	3890
15. Nariman, K. S.	3875
16. Sargent, A. F.	3697
17. Thornhill, W. H.	3615
18. Robertson, R. H.	3486
19. Reporter, M. E.	3327

* Gained the Herbert Prize. † Gained the Martin Memorial Medal.

List of Army Medical Candidates, who were successful at both the London and Netley Examinations, having passed through a course of instruction at the Army Medical School, Netley, February, 1878.

	Marks.
1. Keays, W.	4930
2. Young, P. G.	4553
3. Crofts, F. W.	4273
4. Beamish, R. T.	3956
5. Parker, W. A.	3900
6. Green, A. P.	3869
7. Lundy, A. R.	3865
8. Anderson, J.	3865
9. Pedlow, J.	3850
10. Routh, J. J.	3350
11. Mulrenan, J.	3348
12. Grier, H.	3335
13. McLaughlan, H. J.	3330
14. Power, E. R.	3316
15. Donovan, H. L.	3229
16. Leader, N.	3156
17. Tidbury, J.	2913
18. Lyle, A. A.	2842
19. Clinch, J. V.	2784
20. Conolly, J. V.	2742
21. Charlton, H. A. H.	2542
22. Barrington, H. E. W.	2496
23. O'Neill, S. L.	2495
24. Quarry, C.	2454

OBITUARY.

Claude Bernard.—This great physiologist and physician who by his physiological experiments and researches has done so much for scientific medicine, died at Paris on the 11th of February 1878, at the comparatively early age of sixty-five. From the time when he took his doctor's degree in Paris in 1843, his progress in work and fame was very rapid, his researches on the liver and pancreas having gained him a world-wide reputation and a professorial chair so early as 1854. From this time to the date of his death, his name has been associated with much of the progress made in physiological studies, and he leaves a blank which will not be soon filled up.

CORRESPONDENCE.

To the Editor of the Edinburgh Medical Journal.

Clinical Society of London, 53 Berners Street,
January 1878.

Dear Sir,—The inconvenient effects which occasionally follow the incautious or long-continued use of the hydrate of chloral, have induced the Clinical Society to appoint a committee for the purpose of investigating certain points in the action of this important drug. The scope of the inquiry has been defined within the following limits: "To investigate what deleterious effects follow the prolonged and continuous use of chloral in ordinary doses."

The committee consists of Sir William Jenner, Bart., Dr Andrew Clark, Dr Buzzard, Dr Duckworth, Dr Barlow, Dr Farquharson.

It is evident that a report upon such a subject will be valuable in proportion to the number and accuracy of the observations upon which it is based; and in entering upon its task, the committee therefore invites the co-operation of the profession at large, and especially of those members of it who enjoy the opportunities afforded by family practice. Every accurately noted fact, even though it be isolated and of little evident utility, will be of service, and from the mass of evidence which may thus be placed at its disposal, the committee hope that some generalization of a useful kind may at least be attempted.

The enclosed list of questions has been framed with the view of drawing attention to the points most worthy of consideration, and the committee will feel much obliged by replies to as many of the inquiries as your opportunities of observation enable you to furnish.

Should it be preferred, however, this column may be left blank, and the information afforded in any other form that may be thought desirable.

In the event of your being able to favour the committee with the advantage of your experience, you will oblige by posting the circular, obtainable by application to the honorary secretary, to him at the above-mentioned address.—We are, dear Sir, yours faithfully,

William Jenner, M.D., *Chairman.*
Robert Farquharson, M.D., *Hon. Sec.*

Part First.

ORIGINAL COMMUNICATIONS.

Article I.—*On Sanitary Inspection.* By Fleeming Jenkin, Professor of Engineering in the University of Edinburgh.

The writer asked permission to lay before the Medico-Chirurgical Society the first account of the manner in which it is proposed that the inspection given by the Sanitary Protection Association shall be carried out, because it seemed to him that the medical profession more than any other was interested in the establishment and working of this Association. In respect of domestic sanitation, the business of the engineer and that of the medical man overlap; for while it is the duty of the engineer to learn from the doctor what conditions are necessary to secure health, the engineer may, nevertheless, claim in his turn the privilege of assisting in the warfare against disease, by using his professional skill to determine what mechanical and constructive arrangements are best adapted to secure these conditions.

The writer will therefore explain what, in his view as an engineer, are the chief objects of inspection in an ordinary Edinburgh house. In doing so, he must not be understood as exhaustively treating every condition which is known to be desirable, but rather as restricting himself to those vital and practical conditions which can be secured with little expense and no inconvenience.

1*st,* It is clearly necessary that each house should be drained, or more properly speaking sewered. That is to say, all fæcal and other refuse matters in a liquid form must be conveyed rapidly to a distance from the house; usually they should be taken to the common sewer, but a properly-constructed cesspool is admissible as a receptacle for the liquid filth of a house. [It may be noted that the plumbers of Edinburgh often use the word cesspool to mean that which in other parts of the country and in sanitary writings generally is called a trap.] A very considerable percentage of houses in all large towns are so imperfectly sewered, that while the occupiers believe that filth is being conveyed to the common sewer, in fact it is being deposited by continual leakage in the basement of the houses. The author has in the last few weeks heard of at least a dozen cases of this kind, each followed by disease or low health in the house. The absence of sewerage is due both to defective joint construction, as where ignorant labourers lay pipes sloping the wrong way, or fail to complete the connexion between the iron sewer and the house-drain, and to subsequent injury, as where the house-drain is stopped up by an accumulation of rubbish, or broken by unequal settlements.

It is found that, in order to secure the first and paramount condition of health, it is not only necessary that the drains should be properly constructed in the first instance, but that they should be systematically inspected from time to time. Cases are very numerous in which complete stoppage has lasted for years without being suspected by the inmates of the house, although this condition has almost invariably been followed by illness in the house.

2d, It is very desirable that each house should as to sewer gas be thoroughly isolated from its neighbours. This principle of isolation is no less important than that of the rapid removal of the home-made filth. It can be secured by the combination of one or more barriers to the upward passage of germ-bearing air from the common sewer into the house sewer, with an open channel affording what may be termed a safety-valve, so placed that even if the tainted air be forced past a barrier such as that which a common water trap provides, nevertheless this tainted air shall not enter the house system, but shall be diverted to a place outside the house where its discharge may be innocuous. Mansergh's, Hellyer's, and Potts' traps all aim at carrying out this idea, the full advantage of which, however, can be secured by having a short length of the house sewer open to the air through a grid in an area or coal-cellar, this open length being guarded by ordinary water traps on either side, so that the area exposed to the open air does not exceed that in the ordinary housemaid's pail. The thorough and absolute exclusion of every germ present in the lower sewer from each house sewer is the object here to be aimed at. No system which merely diminishes the number of germs admitted into the house sewer can be regarded as satisfactory. It is necessary from time to time to see that these traps are not clogged, and that, above all, the ventilating opening has not been obstructed through carelessness or ignorance.

3d, It is necessary that the whole system of piping inside a house should be water-tight and gas-tight. There may be a free passage for sewage out to the common drain and complete isolation from sewer gas, and, nevertheless, filth, and possibly tainted filth, arising inside a house, may leak out into the basement through defective joints or cracks in a pipe, or in the form of gas into the dwelling-rooms. To prevent this we must make sure that the piping is sound, and that wherever an inlet occurs for liquids the exit of gases shall be effectually prevented by properly constructed water-traps. Here, again, originally sound design and construction will not permanently secure the object aimed at. Pipes corrode and break, joints give way with time; moreover, when alterations are made, defective work is not unfrequently introduced. Hence periodical inspection is absolutely necessary to safety.

4th, It is desirable that the inside of the pipes used to convey foul matters should be thoroughly ventilated or aërated, inasmuch as the presence of large volumes of air tends to prevent that kind of decay which produces noxious gases, and even when these are generated tends to neutralize their noxious character. It is not only desirable that we should by sound pipes and good traps exclude from the house all danger which may arise inside those pipes, but also that we should so far as is possible prevent the dangerous elements from ever coming into existence. Engineers are in less perfect agreement as to the best mode of ventilating house drains than as to the points hitherto mentioned. To the writer it seems probable that there are many ways in which this object can be effected without great difficulty or expense, and certainly without the use of any patented apparatus. It appears to him as if sanitary reformers, by striving for too much, were defeating their own ends and preventing the public from adopting any ventilation whatever. He is disposed to think that great laxity may be safely permitted in respect of the ventilation of the house drain, provided the cardinal condition is observed that every section between two traps is allowed in some way to communicate with the outer air. Ventilating openings are necessarily subject to be choked with dirt or closed by carelessness; and inasmuch as those stoppages lead to no immediate or apparent inconvenience, this stoppage is almost certain to escape detection, unless some inspector methodically examines the passages intended to act as ventilators.

5th, The water used for dietetic purposes must be preserved clean. To do this the cistern must be of suitable materials, and placed where no foul air can pass through or over the water. Drinking water should never be drawn from a cistern used to supply a water-closet or placed in a water-closet; but to enforce this rule would entail so much inconvenience and expense that, in old houses, the engineer may sometimes permit the practice, provided the two special dangers are avoided to which these cisterns are liable. These dangers arise—(1), from overflow-pipes directly connected with the soil-pipe; and (2), from badly-designed pipes and valves supplying the water-closet. These pipes and valves are sometimes so ill contrived, that whenever the closet-handle is pulled up a rush of foul air occurs from the pan of the closet through the water of the cistern. When these two gross defects are avoided, the danger of drinking water from the cistern placed over a water-closet is much diminished; nevertheless, in the writer's opinion, in all new houses builders should be compelled to provide separate cisterns for the water required for dietetic purposes; and wherever the owner of an existing house can afford to make the change, it certainly should be made. Inspection of cisterns is very desirable from time to time, in order that any corrosion of lead or accumulation of dirt may be detected. It is also desirable as a means of detecting and checking alterations, which are not unfrequently made by ignorant or careless plumbers, with the effect of spoiling arrangements which were originally good.

In the above summary of the objects to be aimed at in designing the sewerage and water supply of a house, the writer has endeavoured to advance nothing which would not meet with the support of the great majority of the engineering profession; he has avoided all controversies as to the relative merits of the dry system and the water-carriage system, or as to the relative merits of various means of carrying out either of these systems.

These questions are far too large to be discussed in a single paper; and, moreover, the question which most frequently comes before the medical man is, how to ensure that some existing house or an existing town may be made and kept healthy.

The writer thinks that by attention to the five cardinal conditions enumerated above, this healthiness may be ensured without any great expense and without the use of any patented apparatus. No doubt there are an immense number of details in the choice of materials, of fittings, and of modes of designing and executing work, all of which are important to some extent; but we are so far from any ideal perfection, that sanitary reformers often ruin their own cause by insisting on an impossible perfection in every detail, and by mixing up questions of first-rate and of fifth-rate importance.

When, however, the attempt is made to apply these simple principles to any one house, the need of technical or professional advice is at once felt, and hitherto the public have been very much in the hands of plumbers and builders, for architects or engineers are rarely called in, except in the case of mansions of very great importance. The medical man has often to suggest changes in the sewerage of a house as desirable, and he is often qualified very materially to assist the householder in determining what changes require to be made; at the same time, his recommendations are always liable to be thwarted not only by the apathy of his clients, but by the ignorance or carelessness of the tradesmen employed to design and make the alterations. Moreover, it is hardly to be expected that the medical man shall always be fully qualified either to design or test sanitary appliances. If he is able to do this he does it from pure benevolence, receiving no fee and often small thanks. Moreover, he must often feel that a responsibility is thrown on his shoulders which he is really not called upon to bear, and which he only assumes because no duly qualified person is to be found who will design and examine these sanitary appliances.

When considering these difficulties, the writer was led to the conception of an Association which might not only enable its members to obtain the advice and inspection which they require cheaply, but might also induce them to accept advice and inspection which they might otherwise never think of seeking. He saw that it would be possible for an engineer of the highest standing to give advice to a large and important body, whereas it has not been the practice for leading engineers to advise individuals about their house arrangements, except where large outlay was in contemplation. This point in itself is of very considerable importance. Just as the leading physician of the day may give his services to great numbers of poor patients when these are gathered in a hospital, although he could not practically visit them in their own houses, so the simple fact of the collection of a number of clients into a group will enable the leading engineer to give them the benefit of his advice. The application of the general principles might be entrusted to younger members of the profession, working under the immediate eye of their chief. On this hint the Sanitary Inspection Association has been formed. Membership is made to depend simply on the payment of one guinea annually. Out of the funds thus provided a leading engineer will be paid as consulting engineer to the Association. The consulting engineer occupies much the same position as the consulting physician. The writer intends to apply for the position, and as he will make no difficulty as to terms, he expects to obtain the appointment. The greater part of the guinea of each member will, however, go to the payment of the executive staff, which will consist of young engineers, each followed by his workmen, who will give their whole services to the Association.

How the objects named above will be promoted by the action of the Association may best be understood by a slight sketch of the manner in which it is proposed that the work of inspection should be carried out. Each member will, in the course of the year, receive a letter from the secretary, asking whether it will be convenient for him to receive the inspecting engineer on a given day. If the member should not wish to have his house inspected he will make this known, otherwise he will appoint a day for the preliminary inspection. During this first inspection the engineer will make a diagram of the pipes throughout the house, and will make every investigation which can be made without entailing any expense to the member. He will then draw up a preliminary report stating whether a complete inspection can be made without expense to the member, and if not, at what cost the necessary alterations in the fittings can in this particular instance be made. It is not anticipated that in any case the expense of preparing for a complete inspection can be great, but in most cases some trifling expense would have to be incurred. If the member states that he does not wish to incur any expense, he will receive the preliminary report, which will give him all the information concerning the sanitary arrangement of his house which can be procured by the inspection of the engineer, aided by one workman. If, however, he is disposed to allow of a complete inspection, the necessary apparatus will be fixed. This apparatus will usually consist of a trap of the type above described, with a ventilating grid placed so as not only to give the requisite ventilation, but also so as to allow of the following thorough series of experiments, which will be tried on the occasion of the second visit of the engineer:—1. Is the house drained? This will be tested by simply fastening up the water-closet handles for a few minutes, and watching the flow past the grid at the external trap. It is clear that no obstruction can exist on either side of the trap if this flow is seen to be unimpeded. 2. Is there any leakage from the sewer under the house into the basement? if so, of what magnitude? This will be tested by temporarily plugging up the drain at the trap, and filling the pipe or drain in the basement with water. If the water remains at a constant level the drain is clearly water-tight; if not, the amount of the leakage can be measured by the rate at which the surface falls. No head of water should be put on the drain or pipe, which is usually not designed to resist pressure, but all sewerage pipes passing under the basement of a house should be as tight as a bottle. It will, in this way, be quite easy to test the soundness of a drain without uncovering it, and to repeat this experiment as often as may be desired. This experiment will also make sure that no old open ends are left connected with the main drain, as not unfrequently happens, with the result of allowing a part of the sewage to run out into the basement. 3. Are the pipes of a house air-tight, and are all openings trapped? This will be ascertained by making fumes of paraffin inside a closed vessel over the open grid at the trap, and driving these fumes into the house system by a fan, but not so as to cause any internal pressure. When it has been ascertained that these fumes have reached the highest point in the pipes, each room in the house will be inspected, and any escape of paraffin into any room will certainly be smelt, the place of the escape will also be easily detected. 4. Are the traps and pipes of a house properly ventilated? This will be ascertained by endeavouring to put the pipes under a slight pressure by pumping air into the pipes at the bottom. If no paraffin fumes are then forced into the house, it is clear that at least one part of the ventilating system is in order. In addition to this experiment the test of passing smoke through ventilating openings will be made wherever this may seem desirable. 5. Is the drinking water unpolluted? The cisterns will be examined, the position of the overflow pipes recorded, and the action of the water-closets inspected (these experiments will, however, usually form part of the preliminary inspection).

Shortly after these experiments have been completed, the householder will receive a report stating the result; stating also whether any alteration in the house-fittings seems desirable or necessary, and approximately at what cost these alterations can be made. If they are carried out, the work done will be inspected. All reports will be made according to principles laid down by the consulting engineer, and all doubtful cases will be submitted to him. It will be the object of the engineers to meet the convenience of the members in every way. They will have no interest in advising that work should be executed, or any particular apparatus adopted. Moreover, their reports will be made, subject to the check which an elected council will afford.

It is expected that the result of these first complete examinations and reports will be to cause the house to be put in thoroughly good order as regards sanitary arrangements; but it may have been observed that not one of the five conditions laid down as essential can be permanently secured without systematic inspection. It is too often supposed that all that is necessary in a house is once for all to put the drains in good order, and that ever afterwards they may be wholly forgotten. Dr A. Fergus, of Glasgow, would be able to give some striking illustrations of the fallacy of this supposition, and every medical officer of health must know how completely false the assumption is. The fact that a drain is free to-day gives no guarantee that it will not be choked up five years hence. The fact that it is water-tight to-day gives no guarantee that, whether by the perishable nature of the materials with which it is made and jointed, or by such accidental causes as unequal settlement or occasional violence, the drain may not be seriously leaky five years hence. The fact that pipes to-day are air-tight gives no guarantee that lead will not corrode or iron rust, so as to let out sewer-gases hereafter. Cisterns may be well placed and well fitted up, and yet be so neglected that they become foul; and the fittings may become so rusty and corroded as to act improperly and injuriously. Lastly, alterations may be made heedlessly or ignorantly, which may actually withdraw the protection originally afforded. In the writer's opinion house-fittings, even when constructed according to the best possible system, should be periodically inspected, and this inspection will be given yearly by the Association under the superintendence of highly skilled men.

It should be observed that the Association aims at giving a new thing, or rather a thing which, though not absolutely new, is yet quite new to the ordinary householder. The Association does not aim at doing better something which the architect or the plumber has hitherto done, but at doing something which neither architect nor plumber ever do. Neither does it relieve the municipality from any part of its responsibility. The municipality may intervene inside a house where some evil has already occurred, or where neighbours are injured, but it can never undertake the private duty of keeping internal fittings in good order by periodical inspection. It might as well inspect the beds and bedding of the inhabitants to see whether these are sufficient. Each householder must manage his own house-fittings in his own way, but he may make sure of obtaining sound advice and careful experiment by the payment of a guinea to the Association.

It will be seen that the joint inspection will be neither costly nor inconvenient; that the object of the Association will be rather to ensure that existing fittings are in sound working order than to suggest the adoption of novel appliances; that there is no pretence or wish to take the work of architects or of plumbers out of their hands. When alterations on a large scale are necessary, the designs for these clearly cannot be made for a guinea. The householder will in these cases be advised to consult an architect. Privacy will be secured, for no reports will be made public beyond such general statistics as have a general interest. In fine, the Association will meddle with no existing interest. It will educate the community in sanitary matters, strengthen the hands of the public authorities, and indirectly exercise a most beneficial influence over the work executed on all new buildings. It will foster the introduction of many new minor contrivances, such as ventilators, stoves, and so forth, which often remain unknown to the general public for years after their invention, and at the same time it will offer some check to unscrupulous advertisers.

Lastly, the Association will, it is hoped, be of great use to the poor, who cannot afford themselves to pay the guinea subscription. It is intended that members should have the privilege of obtaining reports on poor houses at small rates. In this way those who visit the poor may learn definitely what is the matter, when they have reason, from the presence of foul smells or otherwise, to suppose that defects exist. The Association will have no power to compel any one to remedy those defects, but may, when the council think that the law is being broken, bring the case to the notice of the proper authorities. In other cases the defect may be remediable at so small a cost, that either the landlord may be induced to make the change, or charity itself may provide what is required. In any case, to know definitely what is wrong is to advance a long way in the direction of providing a remedy. Systematic investigations of this kind, moreover, will provide a large body of valuable statistics, which may serve to show in what direction existing laws require modification. It must be borne in mind that the Association will only step in where invited, and where it is welcome. Schools, public and private, hospitals, almshouses, hotels, lodging-houses, should all be inspected; and it may be well to mention that the occupier of a single flat is not excluded from the benefits of the inspection, even though his neighbours may refuse to concur in any joint action. It will be the aim of the engineers to make each occupier independent as far as may be of his neighbours.

Two strange fallacies deserve notice. One is, that it is of no use to put private sewers in good order so long as public sewers are in bad condition. This is eminently untrue, for the worse the condition of the public sewer the more necessary is it that each house should be cut off and protected by the perfection of its internal arrangements. The other fallacy is, that if town sewers were good, there would be no need for good internal fittings. This is certainly absurd, for, independently of the dangers which arise within the house itself, and which may be sufficiently serious, it may be said confidently that the best managed public sewer, receiving, as it does, the taints of numerous diseases, must always be a source of some danger to all houses into which common-sewer gas is admitted.

It is hoped that the medical profession may give their hearty support to the new movement; that they will do so may be augured from the ready adherence which the Presidents of the College of Physicians and the College of Surgeons gave to the scheme. The responsibility of a medical attendant is heavy enough, as it seems to the author to make him welcome any proper means by which he may be relieved from the responsibility of giving advice concerning drains and other engineering matters, —advice which has certainly, in thousands of cases, been beneficial, but which can neither be given with the fully trained knowledge of the engineer, nor be received as coming with such a clear authority. Moreover, in recommending the Association, the medical man will not exercise any invidious patronage; he will merely tell his patients that a council of men, well known to them, have selected professional advisers, who are likely to be thoroughly competent, as having been carefully selected by such men, and who are certain to gain immense experience in the course of their annual inspections.

ARTICLE II.—*Cases of Aneurism of the Aorta, treated by Iodide of Potassium.* By BYROM BRAMWELL, M.D., Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne; Physician and Pathologist to the Newcastle Infirmary, etc., etc.

(*Read before the Medico-Chirurgical Society of Edinburgh*, 16*th January* 1878.)

MR PRESIDENT AND GENTLEMEN,—During the past three years six cases of aneurism of the aorta and one case of aneurism of the innominate artery have been admitted to the Newcastle-on-Tyne Infirmary under my care. In this paper I propose to record as briefly as is consistent with scientific accuracy the notes of these cases. I have also added the notes of three other cases, which, for various reasons, are interesting.

The treatment adopted in the seven Infirmary cases was the administration of iodide of potassium, after the manner recommended by Dr George W. Balfour. In all rest in bed was enforced as far as possible. The results obtained were on the whole satisfactory, though the patients remained too short a time in hospital to be permanently benefited.

CASE I.—*Aneurism of the Ascending Thoracic Aorta. Unilateral Sweating of the right side of the Head and Face. Intercurrent Pericarditis. Discharged Relieved.*

J. D., æt. 40, a pitman, single, was admitted to the Newcastle-on-Tyne Infirmary under my care on the 16th January 1875, suffering from an aneurism of the ascending thoracic aorta.

Previous History.—Until his present complaints commenced he enjoyed excellent health. On 17th August 1874, while lying in bed, he happened to place his hand on the upper part of the right breast, and was astonished to feel a strong pulsation. The next day he consulted a doctor, who advised him to leave off work. He has been under medical treatment since, but has got worse instead of better. Previous to August 1874 he suffered for a year at least from pain in the left shoulder-blade and shoulder. Nine years ago he had syphilis.

Family History unimportant.

State on Admission.—Patient is of middle height, dark hair, light brown eyes, complexion pale, mucous membranes anæmic. He is somewhat emaciated. He complains of pain and beating in the right breast, palpitation, shortness of breath on going up stairs or up a hill, and occasional cough. The pain is constant. At times it is very severe, shooting through to the back, up to the shoulder and down the right arm to the tips of the fingers. For several nights past it has been intolerable, and has prevented all attempts at sleep.

On Inspection.—A slight pulsating prominence is seen between the second and third right costal cartilages. A double impulse and systolic thrill are felt over the prominent area, which is the size of a five-shilling piece. Pain and tenderness on pressure are complained of over the prominence, and at a spot between the superior angle of the right scapula and the spine.

On Percussion, there is absolute dulness over a space two inches square. The centre of this area is the pulsating prominence. There is also impaired percussion over the inner half of the right infraclavicular and over the upper sternal region. (See Plate I. Fig. 1.)

On Auscultation, a double impulse and soft systolic murmur are audible over the aneurism. The respiratory murmur and vocal resonance are absent over the dull area. There is impaired percussion between the superior angle of the right scapula and the spine. A double *sound* is audible over the same spot.

The Pupils are at present equal, but the right is sometimes larger, sometimes smaller than the left. There is also right-sided unilateral sweating of the head and face. The patient states that he has noticed this for nine years.

The Respiratory Murmur and vocal resonance are weaker in the right than in the left lung. The voice is hoarser than it used to be. There is slight difficulty in swallowing.

The Cardiac Apex can be felt in the sixth left interspace, three inches below the nipple. *Cardiac dulness* extends transversely from the left border of the sternum to the left nipple, a distance of 3¾ inches. Vertically it measures 4½ inches, extending from the fourth to the seventh rib. A soft systolic murmur is audible at the apex. The pulmonary sounds are not accentuated. The aortic second sound is very loud over the mid-sternum at the level of the nipple. It is much louder at this spot than over the aneurism itself. The pulse numbers 74, is regular, equal in the two wrists, slightly visible and jerking.

The other Systems and Organs are normal.

Treatment.—He was ordered half-drachm doses of the iodide of potassium three times a day, rest in bed, and a subcutaneous injection of morphia at bed-time.

Subsequent Progress of the Case.—*22d January.*—He is now almost free from pain, and able to sleep without the opiate.

8th February.—He is much worse, looks ill and collapsed; complains of severe pain, increased by pressure, in the pit of the epigastrium. On auscultation a double pericardial friction murmur is audible over the præcordia. The pulse is 128, weak. The temperature 97° F. He was ordered fifteen drops of the tincture of digitalis every four hours instead of the iodide.

10*th.*—Decidedly better, friction sound disappearing.

18*th.*—Still improving, friction gone. Ordered a mixture containing half a drachm of the citrate of iron, quinine, and strychnia.

1*st March.*—Has suffered from headache for the past twenty-four hours. Is otherwise the same. To take half a drachm of the iodide three times daily.

2*d April.*—Is now quite free from pain. Has gained a stone in weight since his admission, and feels himself much stronger.

28*th.*—He was to-day discharged at his own request. Since last note the improvement has continued. The prominence is not now perceptible. He has no pain, nor difficulty in swallowing. The other physical signs are the same.

Remarks.—In this case the iodide was well borne, the pain was speedily relieved, and there was apparently a diminution in the size of the tumour. I say apparently, for it is necessary to remember "that the cure may be simulated by the pulsation becoming less or disappearing, the tumour nevertheless extending in other directions" (Ziemssen, vol. vi. p. 449). At the date of his discharge the prominence was no longer visible, dysphagia and cough had disappeared, and the voice had to a great extent regained its natural tone.

The occurrence of Unilateral Sweating is a point of great interest. Since the publication of Professor Gairdner's case in the *Edinburgh Medical Journal* for 1856, several cases have been reported in which this symptom was caused by an aneurism pressing upon the sympathetic. In this case it is doubtful whether the aneurism was in any way the cause of the condition. The unilateral sweating had been observed for nine years, and the first symptom of aneurism, viz., pain, only dated back fifteen months.

The association was, however, interesting, and the condition of the parts was carefully noted on several occasions. I found, *firstly*, that the sweating was sometimes accurately limited by the middle line; *secondly*, when unilateral sweating occurred the right pupil was always smaller than the left, and the temperature under the right ear was at least one degree lower than on the opposite side; *thirdly*, in the intervals, on the contrary, the right pupil was either equal to or larger than the left, and the temperature on the right side equal to or higher than that on the opposite side.

These results are seen in the following table:—

Date.	State of Skin of Right Side of Face.	Condition of Pupils.	Temperature under Right Ear.	Temperature under Left Ear.	Temperature Right Axilla.	Temperature Left Axilla.
Jan. 2.	Sweating (left dry).	Right smaller than left.	95·6	96·7	Not noted.	Not noted.
Jan. 26.	Not Sweating.	Right larger than left.[1]	98·6	97·	97·9	98·
Jan. 27.	Sweating (left dry).	Right smaller than left.	97·	98·7	98·2	98·5

Pericarditis is not a common complication of aortic aneurism. In 68 cases tabulated by Hayden, effusion into the pericardium, presumably inflammatory, is noted only once.

The occurrence of pericarditis with a temperature of 97° F. is perhaps worth noting.

The cause of the pericarditis in this particular case is doubtful. Possibly it was due to some portion of the aneurismal sac pressing upon and irritating the pericardium. Such was apparently the cause of an adherent pericardium which I met with some years ago. That case is interesting from the large size and somewhat unusual situation of the external tumour.

The notes are as follows:—

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[1] It is somewhat difficult to account for the temperature being higher in this observation.

CASE II.—*Large Aneurism of the Base of the Aorta perforating the lower part of the Sternum, and forming an External Tumour the size of a Child's Head. Death from External Rupture. Adherent Pericardium.*

J. S., æt. 36, married, a striker, formerly for eight years a soldier, came under my care on 7th April 1873.

Previous History.—His health was excellent until two years ago, when he began to suffer from pain over the region of the liver, in the right shoulder, and right breast. For at least three years he has been short of breath on going up stairs or up a hill. For some months his breast has been swollen. Ten years ago he had syphilis.

Present Condition.—He complains of constant pain in the breast and right shoulder. Has a frequent short cough. A conical tumour, the size of a large orange, projects from the anterior wall of the chest. The appearance of the tumour at this stage of the case is seen in the very excellent drawing (Plate VI. Fig. 2), for which I am indebted to the skill of my friend Dr Barron of Durham. The base of the cone rests upon the sternum, and covers the cartilages of the 4th, 5th, 6th, 7th, and 8th right ribs. The apex of the cone is shiny and discoloured. It is evident that, at this point, the external wall of the tumour is very thin indeed.

Strong heaving pulsation is felt in the tumour, and all over the anterior wall of the chest.

On Auscultation over the tumour and in the pit of the epigastrium, where there is well-marked pulsation, two sounds are heard of a superficial dull muffled character, and free from murmur. Over the cardiac apex, which is indistinctly felt in the 6th left interspace, the first sound is prolonged into a dull roll. At the manubrium and over the upper and inner part of the base of the tumour a loud double bellows-murmur is heard. Before the diastolic portion of the murmur there is a distinct thud. The pulse is slightly jerking and visible, the right being considerably stronger than the left.

He is troubled with a tickling cough. With the exception of the pain already described, there are no pressure signs. The area of liver dulness is increased downwards. The urine contains a small quantity of albumen. The *subsequent history* of the case was short. The tumour daily increased in size until it was fully the size of a child's head. The base extended from nipple to nipple, and projected fully an inch and a half below the xiphoid. (See Plate I. Fig. 2.) Death was instantaneous, and was caused by external rupture.

Autopsy.—A large ragged opening was seen on removing the external covering of plaster, etc., which had been applied as a support to the tumour during life. The base of the large external tumour was circular, and extended from the level of the third interspace above to a point an inch below the xiphoid cartilage, a distance of six inches. Transversely, its widest diameter was five inches. (See Plate III.)

The external tumour contained a large quantity of firm laminated clot. The lower end of the sternum was eroded. A circular opening, larger than a five-shilling piece, communicated between the external and internal tumours. Below the lower end of the sternum, in the position of the xiphoid, there was another opening, triangular in shape, and almost as large as the circular one already described.

The edges of the circular aperture were in places beautifully smooth, evidently blood-worn. The internal tumour was of large size and sacculated. It sprang from the very base of the aorta on its right side, and was firmly adherent to the exterior of the right cavities of the heart. The internal portion of the tumour consisted of three sacs; the first was the size of an orange, the second somewhat larger, and the third the size of a hen's egg. All three sacs freely communicated one with the other. The first sprang directly from the aorta, the second and third communicated with the external tumour through the openings above described. The contents of the internal aneurisms were chiefly recent clots and fluid blood. The walls of the internal aneurism were very thin. In the dried preparation they are transparent. The two surfaces of the pericardium were firmly adherent. The aortic valves were incompetent, the edges of the segments being firmly joined together. The aorta was slightly atheromatous.

CASE III.—*Aneurism of Ascending Thoracic Aorta. Great relief from large doses of Iodide of Potassium.*

H. P., æt. 42, married, a labourer, was admitted to the Newcastle-on-Tyne Infirmary on 4th February 1875, suffering from an aneurism of the ascending part of the aortic arch.

Previous History.—He had smallpox three years ago, but, with this exception, has been very healthy. His present illness commenced six months ago with pain in the chest. Fifteen weeks ago he gave up work. There was then a slight prominence in the upper part of the right chest. He has never had syphilis nor rheumatism, and knows no cause for his illness.

Family History.—Good.

Present Condition.—He is a stout muscular man, 5 feet 9½ inches in height, ruddy complexion, anxious expression, hair brown. He complains of a constant gnawing pain and a sensation of heat in the chest. At times the pain shoots up to the right shoulder, and down the right arm as far as the elbow. He is short of breath on exertion.

A prominence, the size of a hen's egg, is visible between the first and third right costal cartilages. A strong single impulse is felt over the tumour, which is soft and yielding. There is absolute dulness on percussion over the prominence; impaired percussion over an area measuring five inches transversely and four vertically. (See Plate I. Fig. 3.)

On Auscultation, a strong impulse is communicated to the ear, and a double murmur is heard. The systolic portion of the murmur is soft, the diastolic almost musical. The murmur is heard very distinctly posteriorly in the right supra-scapular region, and all down the right side of the spinal column. Two inches to the right of the 6th dorsal vertebra it is more distinct than elsewhere. At this spot the murmur is of a cooing character. The respiratory murmur and vocal resonance are absent over the absolutely dull area anteriorly.

Respiration is weaker in the right than in the left lung. The size of the heart is normal. A soft systolic murmur, distinct from that over the aneurism, and propagated upwards towards the left axilla, is audible at the apex. The pulmonary sounds are not accentuated. Over the sternum, at the level of the 4th costal cartilage, a loud systolic and faint diastolic murmur are audible. At the ensiform cartilage the second sound can be faintly heard.

(It was particularly noted that the diastolic murmur was much less loud at the base of the heart and down the sternum than over the tumour itself.)

In the vessels of the neck, especially on the right side, a loud systolic murmur is heard. The radial pulse is 66, regular, equal in the two wrists, and just visible. The pupils are equal and dilated. He sleeps badly because of pain in the chest. The other systems and organs are normal.

Treatment.—He was told to remain in bed, and half a drachm of the iodide three times daily was prescribed.

Subsequent Progress of the Case.—He made rapid and continuous improvement, and in a few days was much easier.

On 4th and 5th March the pain returned, and he spat a little blood.

On 9th March the iodide had to be discontinued owing to dyspepsia.

On 12th March he complained of numbness in the right arm, and of cramp in the left thigh and leg. The iodide was repeated.

On 4th April he discharged himself, saying he felt quite well. The prominence was very much less. There had been no pain since 5th March. He promised faithfully to continue the medicine.

Remarks.—In this case the beneficial effects of the medicine are undoubted. When admitted the patient was suffering from severe pain, and was totally unable to undertake the least exertion. The aneurism, too, was increasing very rapidly. After his discharge he returned, in spite of advice, to heavy work (lifting timber). He continued to work for nineteen months without pain or inconvenience. In November 1876 the tumour again began to increase in size. He presented himself for examination on 14th

December 1876. His general condition was good. The aneurism was larger than at the time of his discharge from hospital (April 1875). The heart was now considerably hypertrophied. The other physical signs were the same. He was advised to discontinue work, and to take the iodide as before. I have not heard of him since. A point of great interest was the fact that the diastolic murmur was much louder over the aneurismal sac than over the position of the aortic valves and the lower end of the sternum. The question arises whether this was one of those rare cases in which a diastolic murmur is generated in the sac itself.

CASE IV.—*Aneurism of the Transverse Portion of the Aortic Arch.*

J. F., æt. 55, a labourer, was admitted on 1st June 1875, complaining of pain in the chest, shortness of breath, and difficulty in swallowing.

Previous History.—His present complaints commenced five months ago. Has always been very healthy. Has not had syphilis nor rheumatism.

State on Admission.—He is a very stoutly-built, muscular man, light hair, ruddy complexion. The thorax is well formed. The left external jugular and left brachio-cephalic veins are distended and prominent. There is marked dulness on percussion over the manubrium sterni and to the left of it. The dull area measures three inches by four. (See Plate I. Fig. 4.)

A soft systolic murmur is audible all over the dull area, and (very loudly) in the left subclavian artery. A well-marked thrill is felt in the same vessel. The murmur is heard, though faintly, in the left supra-spinous fossa. It is loudest immediately below the left sterno-clavicular articulation. It is less distinctly heard at the second right costal cartilage. The aortic second sound is markedly accentuated. The heart is of normal size and healthy.

The left radial pulse is of good strength, and numbers 80 in the minute. The artery feels rigid. The right radial pulse is imperceptible. Respiration is weaker in the left than in the right lung. He suffers from a clanging paroxysmal cough. He spits a little frothy mucus. On laryngoscopic examination nothing abnormal is to be detected. The voice is somewhat husky. He has difficulty in swallowing, and complains of a choking sensation in the throat. The left pupil is slightly larger than the right. Both are contracted.

He occasionally feels pain in the pit of the epigastrium. This pain is relieved by pressure. The other systems and organs are normal. Two enlarged glands are to be felt above the left clavicle.

Treatment. — Half a drachm of the iodide was given three times daily, and he was confined to bed.

Subsequent Progress of the Case.—He quickly improved, and discharged himself on 8th July, saying he felt fit for work. The cough and dysphagia had gone.

22d July.—He was re-admitted very much worse, the cough constant and severe, the dyspnœa amounting to orthopnœa; severe pain in the pit of the epigastrium. The same treatment was adopted.

13th September.—The iodide was discontinued, as it had caused painful swelling of the ankles. The drug was repeated more than once with the same result. A tonic containing iron and quinine was substituted.

28th September.—He was discharged, feeling very well. The physical signs were the same as on his admission.

10th January 1876.—He presented himself to-day, saying that he had been at work ever since his discharge. He still suffers from cough and shortness of breath on exertion. Otherwise he feels well.

Remarks.—The nature of this case was not so absolutely certain as in the cases previously related, for there was no external tumour. The facts which led me to diagnose an aneurism were—

1. The rapid growth of the intra-thoracic tumour. (The symptoms only dated back five months.)
2. The general appearance and good condition of the patient.
3. The accentuation of the aortic second sound.
4. The pulsation in the supra-sternal notch.
5. The absence of œdema, in spite of the large size of the tumour, the obliteration of the right radial pulse, and the engorgement of the left brachio-cephalic and external jugular veins.

The diagnosis was fully justified by the subsequent history. All the cases of intra-thoracic tumour (non-aneurismal) with which I am acquainted have gone on steadily from bad to worse, and have soon been attended with marked constitutional disturbance, emaciation, etc. Nor is this to be wondered at, when it is remembered that the forms of morbid growth occurring in this situation are rapidly growing sarcomata and carcinomata. (Fibromata and lipomata being so very rare that practically they may be ignored.) Since this paper was read I have met with a remarkable case, in which a cyst the size of an egg was in close contact with the aortic arch at the junction of the ascending and transverse portions. The physical signs were, in many respects, identical with those of aneurism.

CASE V.—*Large Aneurism of the Lower Part of the Thoracic and Upper Part of the Abdominal Aorta. Extreme Emaciation, Pain, and Sleeplessness. Greatly relieved by Large Doses of Iodide of Potassium. Death after Discharge from Hospital from Rupture of the Sac into the Left Pleural Cavity.*

P. M'C., æt. 41, married, a marine store dealer, formerly a sailor, was admitted on 20th October 1875, complaining of agonizing pain in the small of the back, sleeplessness, debility, and constipation.

Previous History.—His present illness commenced three years ago with pain in the small of the back. Previous to that date he was very healthy. Eighteen years ago he had syphilis. For the last six months the pain has been "terrible." He has been almost constantly under the influence of morphia. He has been under many medical men, but has got no benefit.

Family History.—Very good.

State on Admission.—He is a perfect skeleton, and wears an expression of great suffering. He is very pale and anæmic, though naturally ruddy. His hair is red. The left thigh is slightly flexed on the abdomen. He can only sleep in one position—on his right side, with the thigh well flexed on the abdomen, and the head and chest propped up by pillows.

There is a marked feeling of fulness, hardness, and resistance in the pit of the epigastrium. A powerful heaving pulsation and thrill are felt over the same region. No defined tumour can be made out, even under chloroform. The epigastrium is dull on percussion; the rest of the abdomen is resonant. A loud systolic murmur is heard over the seat of the epigastric pulsation. No murmur is audible posteriorly. There is dulness over the lower part of the right chest posteriorly.

The *heart* is of normal size, the first sound at the apex is short and valvular; the pulmonary sounds are accentuated; the aortic normal. The radial pulse is 96, regular and weak. The tongue is flabby; there are several discolorations on the buccal mucous membrane; the colour of the skin is normal. There is no difficulty in swallowing, but he is afraid to eat, as food always causes pain in the pit of the stomach. He never vomits. The bowels are never relieved except by medicine. A very small dose of castor-oil is sufficient for the purpose.

The other Organs and Systems are normal.

Treatment.—He was ordered half a drachm of the iodide three times daily and a subcutaneous injection of morphia when required.

Subsequent Progress of the Case.—Three days after admission he was comparatively easy and was able to sleep without opiates. In a fortnight all pain was gone, he was able to stand and walk, had gained flesh, and looked wonderfully improved.

He discharged himself on 24th November. (He was in good circumstances, and thought he could be as well attended to at home as in hospital.)

He presented himself several times afterwards, and always reported himself better.

He died suddenly some months after his discharge. Dr Bates of North Shields, who made a post-mortem, very kindly sent me the specimen. Death was caused by rupture into the left pleural cavity.

Description of the Specimen.—At the junction of the transverse with the descending portion of the aortic arch, there was a bulging the size of a small plum. An inch below this the aorta was uniformly dilated to the size of a hen's egg. Immediately below the second dilatation there was a large aneurism. It was heart-shaped, the size of a child's head, and involved the whole of the descending and the upper part of the abdominal aorta. (See Plate IV.)

The greater part of the tumour bulged downwards into the abdominal cavity. The sac of the aneurism contained a large quantity of firm laminated clot. The diaphragm was stretched over its surface ; the 7th, 8th, and 9th dorsal vertebræ were eroded. The aneurism had burst into the left pleural cavity. The aorta was extensively atheromatous. The heart was of normal weight. The mitral orifice was very much narrowed, owing to the deposit of a large quantity of calcareous matter in and around it ; one calcareous nodule was fully the size of a large cherry. The calcareous deposit was very hard and irregular, and was partly embedded in the muscular substance of the organ. The aortic valves were healthy.

Remarks.—This patient on his admission was in constant agony, emaciated to the last degree. For more than six months he had been under the constant influence of large opiates. After a few days of the iodide his sufferings were completely relieved ; he gained flesh, was able to move about, and at the end of a month persisted in leaving the hospital. A better result, considering the short period of treatment, could not have been wished for. Had he submitted to remain in bed and to continue the treatment, the fatal result might have been very much longer delayed.

The case is interesting in another respect. It is highly probable, I think, that the extensive arterial degeneration was the result of the previous syphilis. And I am disposed to think that the large calcareous mass about the mitral valve was due to the same cause. This hypothesis must be received with considerable caution. No less an authority than Dr C. Hilton Fagge says, "I confess I have met with no facts either of observation or by reading that would lead me to believe that syphilis had anything to do with the diseases under consideration. (Article in Russel Reynolds's *System of Medicine*, vol. iv., "Disease of the Valves of the Heart," p. 628.)

I have in my possession another specimen which affords, I think, some corroborative evidence. A patient who had previously had syphilis died from the rupture of an aortic aneurism into the pericardium. The arterial system generally was extensively diseased, and in the walls of the left ventricle there was a large calcareous deposit similar in character to the one I have described. One of the papillary muscles at its base had undergone the same form of degeneration. The valves were healthy. Walshe, too, believes that syphilis may be the cause of cardiac valvular disease. He says, "As far as my observation goes, it supports the notion that in its tertiary and ultimate development syphilis may lay the groundwork of aneurism, *as it apparently does of valvular disease also.*"[1] (No italics in the original.) And again, "We are sometimes led to surmise in examining cases of valvular disease, where every ordinary cause of such affection can be excluded, where the defect is known from past examination not to be congenital, and where the patient is tertiary syphilitic, that the structural changes in the valvular apparatus may be the result of syphilitic action. But proof is yet deficient."[2]

The aneurism ruptured into the left pleural cavity, the usual termination of aneurism of the lower part of the thoracic aorta. Abdominal aneurisms, too, frequently burst in the same direction. Of sixteen cases tabulated by Hayden, three ruptured into the lung and pleura. The termination in the remaining thirteen was as follows:—

Rupture into retro-peritoneal tissue, . .	6
Rupture into peritoneum, ...	1
Syncope, ...	2
Asthenia, ...	1
Bright's disease, ...	1
Not noted, ...	2
	13

(*To be continued.*)

ARTICLE III.—*Structure of a Channelled Polypus of the Cervix.*

By Dr C. E. UNDERHILL.

I HAVE lately had an opportunity, through the kindness of Dr Matthews Duncan, of examining a specimen of this somewhat rare form of polypus, and as no account of their microscopic structure has yet, so far as I know, been published, I have made the following notes of the case:—

The term "channelled" was given by Dr Oldham of London to a peculiar form of cervical polypus, to which he was the first to direct attention, and it has been retained since. He says,—"I would designate it channelled polypus of the cervix, from the fact that its interior is made up of large channels with occasional communications between them, and opening by large orifices on the free surface of the growth. . . . They do not appear as a number of pendent enlarged cysts clustering together, but rather as a solid single polypus, with numerous orifices marked out on the exterior."[3] He describes valvular openings on the surface of his second specimen, one of which was ragged, and

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[1] Walshe *On the Heart and Aorta*, page 391.

[2] *Ibid.*, page 500.

[3] *Guy's Hospital Reports*, 2d series, 1844, p. 115.

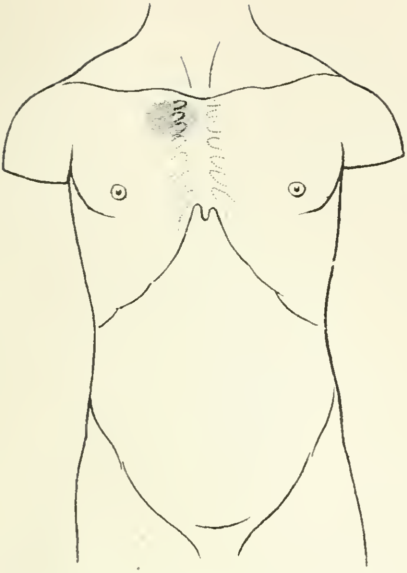


Fig. 1.—Front view of Thorax and Abdomen in case of P. D., showing extent and position of the percussion dulness.

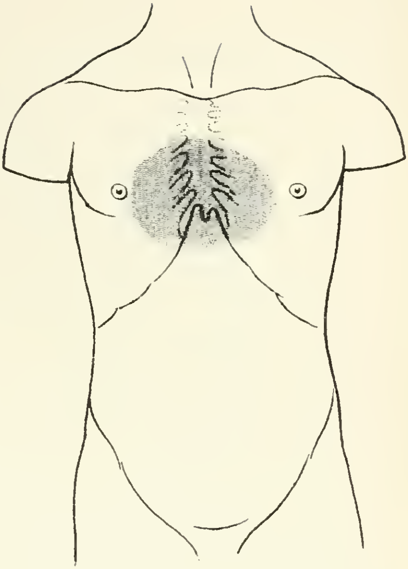


Fig. 2—Front view of Thorax and Abdomen in case of J. S., showing extent of the base of the tumour before death.

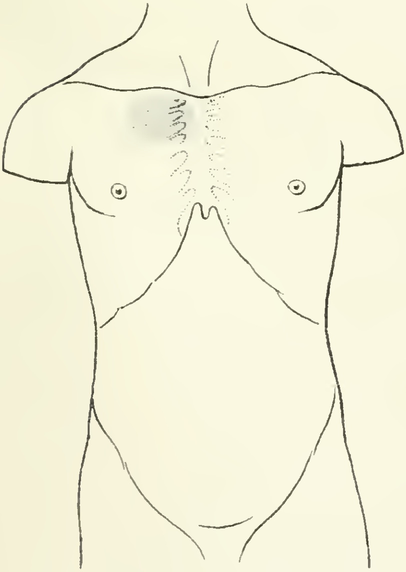


Fig. 3.—Front view of Thorax and Abdomen in case of H. P., showing position and extent of absolute dulness.

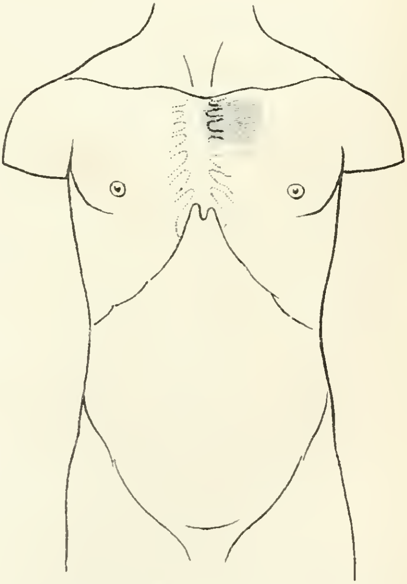


Fig. 4.—Front view of the Thorax and Abdomen in the case of J. F., showing the position and extent of dulness.

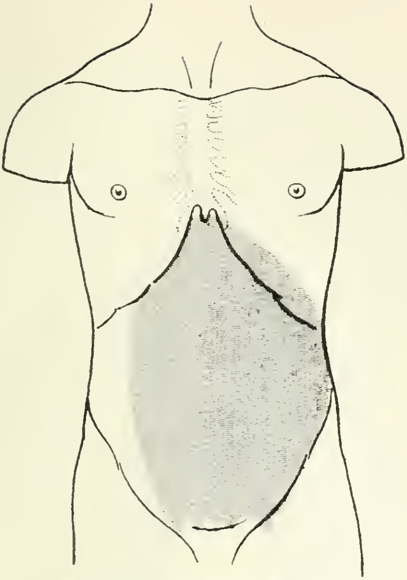


Fig. 5.—Front view of Thorax and Abdomen in Dr Cargill's case of Aneurism, showing size of tumour.

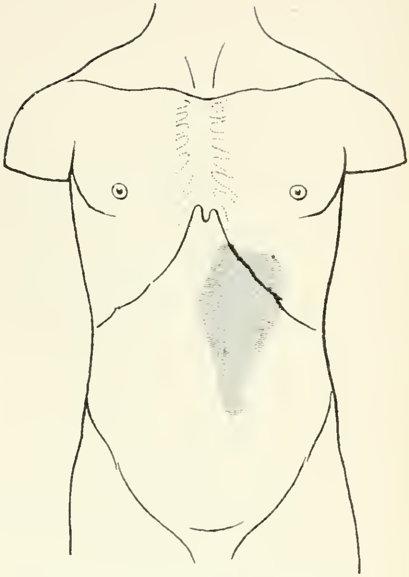


Fig. 6.—Front view of Thorax and Abdomen in case of W. P., showing size and position of aneurism.

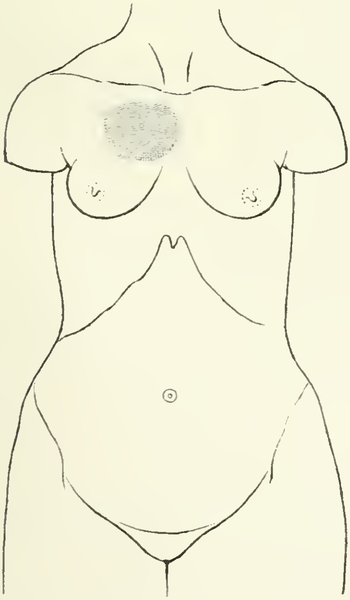


Fig. 7.—Showing outline of absolute percussion dulness in case of W. W.

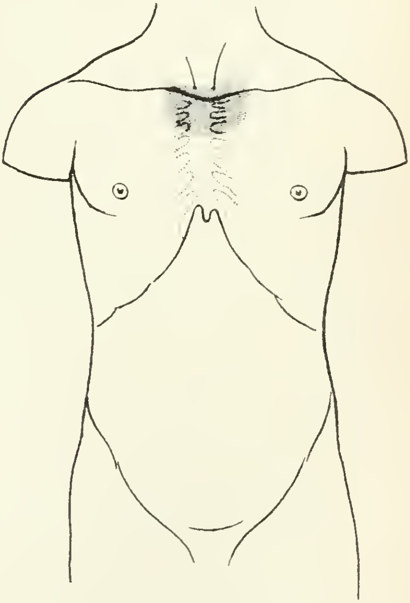
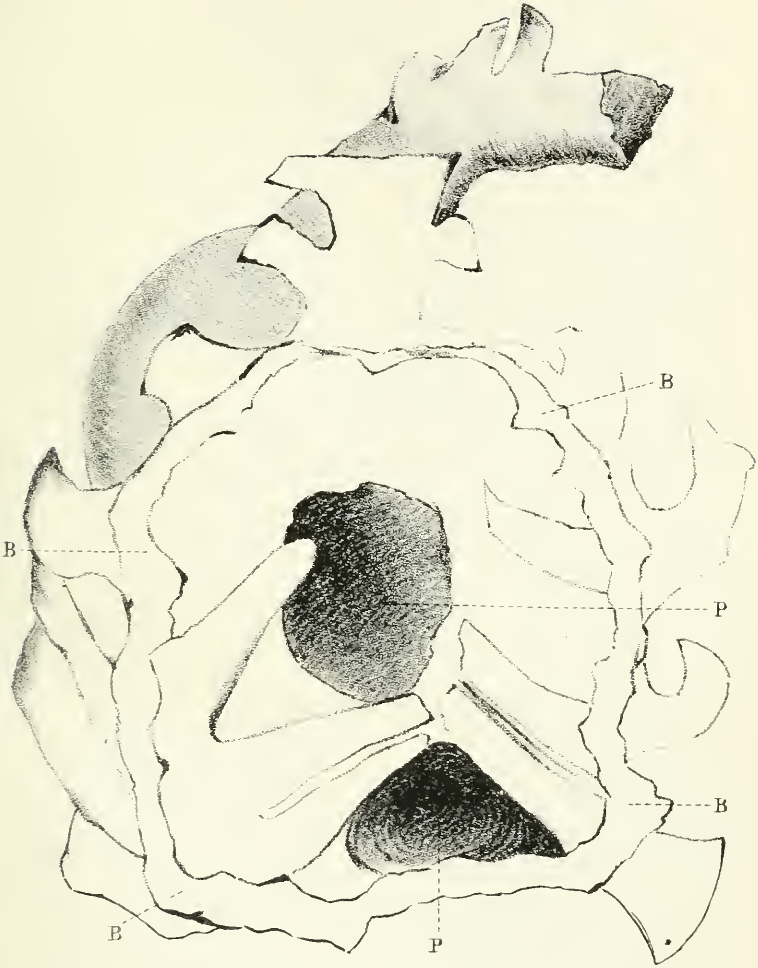


Fig. 8.—Front view of Thorax and Abdomen in the case of G. P., showing the position of the aneurism.

Plate III



Aneurism of Aorta which perforated the sternum, and formed a large external tumour. The perforation, P P, and the outlines of the base of the external tumour, B B, are shown. (Rather more than half the size of the dried preparation.)

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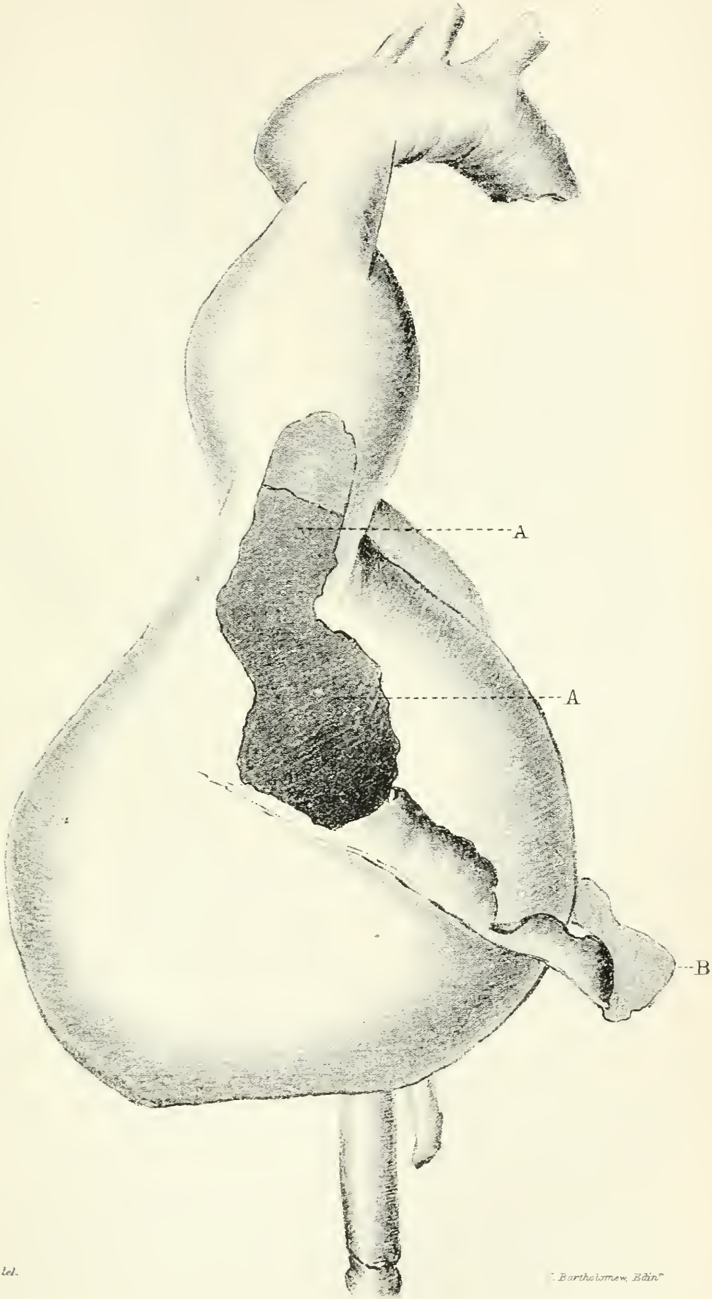


Back view of Specimen. (Half size of dried preparation.) A = point where aneurism was adherent to spine. B = diaphragm.

Plate V.

Fig 1.

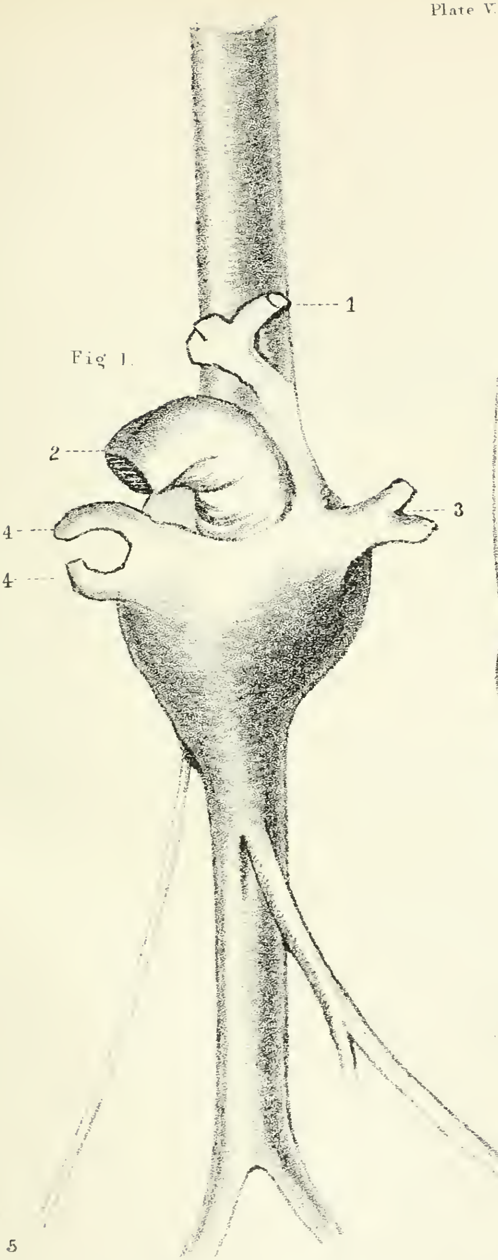
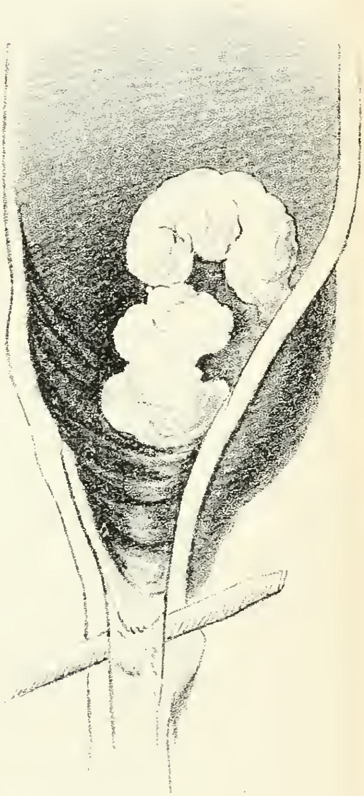


Fig 2.



J. Bartholomew, Edin^r

Fig. 1.—A front view of Aneurism of the Abdominal Aorta in the case of T. W. (Drawn the same size as the preparation.) 1 points to cæliac axis; 2 to superior mesenteric; 3, left renal; 4, right renal; 5, right spermatic; 6, inferior mesenteric.

Fig. 2.—Artery and Aneurism in case of J. W. opened from behind, showing the clot in the abdominal aorta, continuous with the clot lining the aneurism. A probe has been placed between the clot and the walls of the vessel.

PLATE VI.

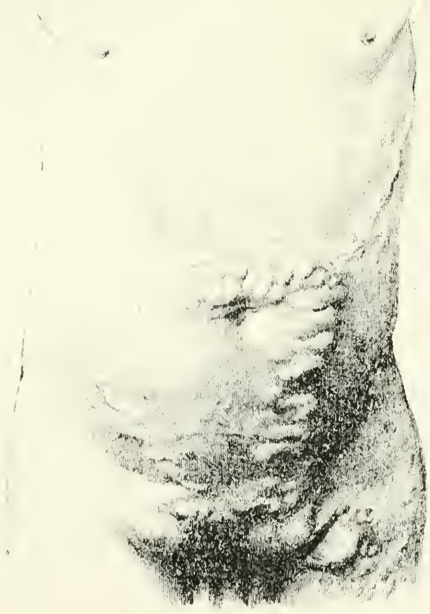


Fig. 1.—Drawing of the front of the abdomen in the case of H. M'L., showing enlarged veins.

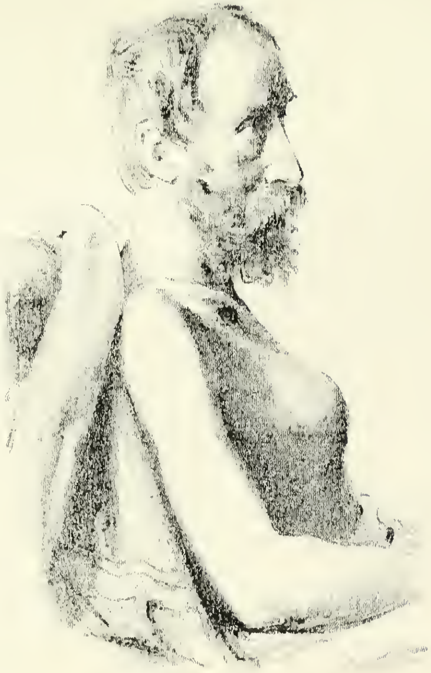


Fig. 2.—Portrait of J. S. (see Case II., page 877), showing the position and size of the tumour when the patient first came under observation.

gave vent to a quantity of sticky transparent mucus. These valvular openings were found to lead into the interior of the polypus, dilating into channels which were lined by a thin rugous membrane inflected from that covering the polypus; other channels led out here and there from a larger one; and so the growth was traversed throughout by these channels, which were all more or less full of mucus. He regards them as direct productions of the different elementary tissues of the womb. His drawings show them to have had a pedicle of much smaller diameter than the polypus itself.

Billroth[1] describes and figures a case which refers to the class of channelled polypi (Röhrenpolypen), as described by Lee, and which appears from its leafy and laminated appearance to have a great resemblance to the one I am going to describe.

J. F., aged 49, single, had a polypus removed by another medical man three years ago; has suffered for some time past from frequent and severe flooding, and is in consequence very weak. On 13th October 1876, Dr Matthews Duncan removed from the cervix with scissors a polyus. It measured 2 inches in length by 1½ across, and ½ an inch thick; externally it was soft and slippery from the presence of mucus. On its surface were many very large openings, extending into the body of the polypus in a longitudinal direction. The whole tumour was flattened, and looked like a piece of hypertrophied mucous membrane. It may be not inaptly compared to a piece cut off from a large-meshed sponge, except that most of the openings did not pass entirely through the growth; near the point of attachment, in the cervix, it was narrowed into a pedicle about as thick as a goose-quill. After hardening in Müller's fluid and spirit, the membrane lining the openings was corrugated in appearance, and covered with very minute elevations. Some beautiful sections, which were kindly made for me by Mr D. J. Hamilton, presented the following appearances:—

To the naked eye the section looked like a long riband-shaped band of tissue, wound about and crossing itself in various directions, leaving very irregular spaces bounded by narrow strips of tissue.

Under a low power (eighty diameters) these spaces are seen to be very numerous, and of exceedingly various sizes; into the larger ones project irregular dendriform promontories of tissue, lined with a long transparent cylindrical epithelium; these form an almost endless variety of capes, some long and narrow, others broad and rounded, or terminating in a serrated margin—all these margins, however irregular, being covered with the above-mentioned epithelium. The greater part of the exterior of the section is lined with this epithelium, but in parts it passed gradually into a tissue greatly resembling skin, but having no glands opening upon its surface; here the epithelial casing is flat and horny, and papillæ resembling those of the skin can be made out; other parts present a transition between these two very distinct forms of external surface. The tissue forming the bulk of the bands is of a cellular appearance, with numerous vessels.

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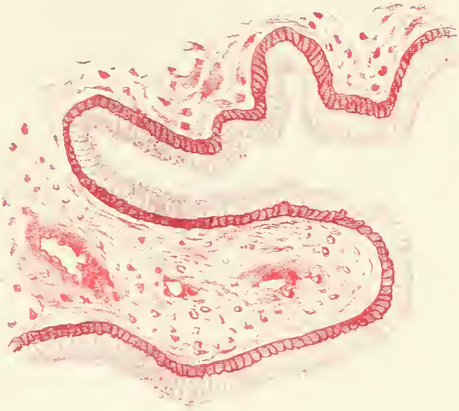
[1] *Ueber den Bau der Schleim polypen*, Berlin, 1855, p. 25.

Under a higher power (180 diameters) the most striking feature is the columnar epithelium everywhere lining the cavities; it is of great length, and very faintly, if at all, tinged by the carmine, except at the base, where a layer of nuclei is to be seen which takes the colour very deeply, and marks most plainly the point where the epithelium is attached to the main tissue of the tumour. The bulk of this tissue is found tc consist of round lymphoid cells of considerable size, with bands of fibrous tissue here and there scattered irregularly among them. Numerous but small blood-vessels are seen lying in this tissue, and the fibrous bands are generally in relation with them. The skin-like layer, which forms the covering of part of the polypus, consists of pavement epithelium cells, flattened, and with the well-known prickly projections, most externally, becoming rounded or spindle-shaped as they pass inwards to end in cone-shaped projections. The points of junction between these basement epithelium cells and the cylindrical epithelium of the gland cavities can be very distinctly seen, the rounded cells of the lower layers of the former becoming elongated, and set up on end side to side and soon attaining the full bulk and form of the gland cells. There is no limiting membrane or layer to be seen between the gland cavities and the body of the tumour. Some of the cylindrical epithelium cells present traces of cilia, but they are not anywhere very distinct. It will be seen that this polypus approaches in elementary structure very nearly to the one described in the *Ed. Med. Journal*, May 1876, as a true mucous polypus. The epithelium lining the gland spaces is exactly similar, and the stroma of the two tumours is greatly alike, except that in the present one the fibrous element is much less marked. But the arrangement of the elements is strikingly different. In the channelled polypus the area of the gland spaces is very much greater than that of the stroma containing them, their number and variety of outline, together with the size and regularity of the columnar epithelium lining them, making a section a very striking and beautiful object under the microscope. In the polypus formerly described these relations are reversed, the main bulk of the tumour is stroma, with gland spaces in greater or less numbers appearing within it.

The channelled polypus appears to differ little in its mode of formation from ordinary mucous polypi, and may be looked upon as an ordinary mucous polypus, in which the gland element has grown to an extent out of all proportion to the stroma. We may conjecture the process to be as follows:—One or more of the follicles of the cervix become obstructed from some cause or other, the cells continuing to secrete mucus, a little swelling is produced on the



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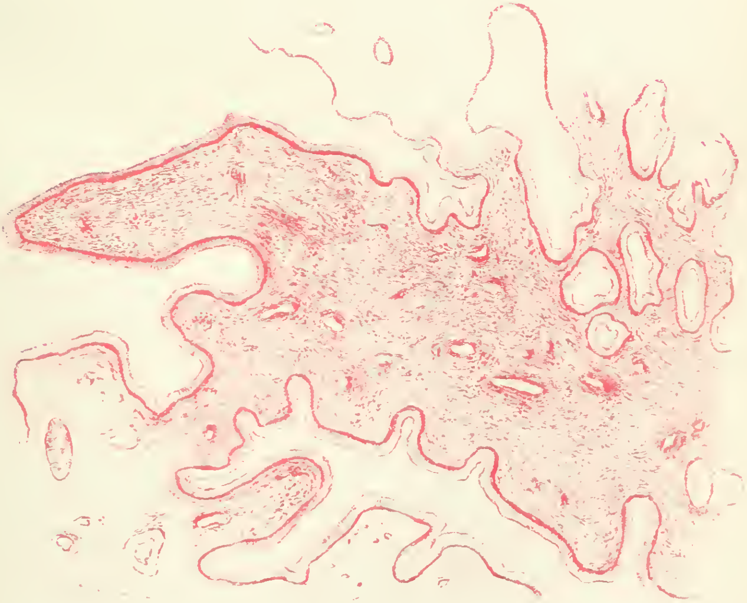

West, del^{t}

60 diams.

J. Bartholomew Edin

mucous membrane; this drags more of the membrane with it; the whole becomes hypertrophied, and an exaggerated gland growth takes place within the enlarging tumour. Probably the largest follicles now burst and form the channels lined with epithelium, which gives its name to the tumour. The whole continues to enlarge until the symptoms to which it gives rise are sufficiently severe to cause its detection and removal. The small part covered with basement epithelium may be referred to a portion of the mucous membrane, where it passes from the interior to the exterior of the cervix, being implicated in the growth. It is to be remembered that this polypus was unusually large for a mucous polypus, and it may be that the channelling was greatly dependent upon its size and the length of time it had consequently taken to develop—that is to say, the larger such a tumour is, the more chance there is of the follicles becoming greatly distended, encroaching upon the stroma, bursting, and thus giving rise to the characteristic appearances.

Since the above was written I have had the opportunity of examining a second channelled polypus, kindly sent me by Professor Simpson, the structure of which was essentially the same, excepting that the part covered by a basement epithelium was much more extensive than in the tumour just described.

ARTICLE IV.—*The Theory and Practice of Non-Restraint in the Treatment of the Insane.* By W. LAUDER LINDSAY, M.D., F.R.S.E., Physician to the Murray Royal Institution, Perth.

> "The colours with which wit or eloquence may have adorned a *false system* will gradually die away, sophistry be detected, and everything estimated at length according to its true value."—The celebrated dissenting divine, the Rev. Robert Hall of Cambridge, "*On the Right of Public Discussion.*"

I.—INTRODUCTION.

THE *raison d'être* of the present paper is simply the following:—

I. Looking back upon an experience as an asylum physician of five and twenty years—an experience that has included an inspection of numerous asylums, not only in Scotland, England, and Ireland, but on the continent of Europe, in the United States and the Canadas, Australia and New Zealand, as well as conferences with their medical authorities—I have met with no question bearing on asylum management that has excited—very properly—so general an interest as that of *restraint or non-restraint* in the treatment of the insane.

II. I believe it to be one of infinite moment compared with the trivial matters—pathological, therapeutical, or other—that occupy the attention of a now numerous and ever-increasing body of alienists, underlying, as the subject of restraint or non-restraint does, the whole principle and practice of asylum management.

III. During the last twenty years, at least, I have been collecting materials bearing on or illustrative of—

1. The *arguments* used—where argument is used at all—by the supporters of the rival doctrines of restraint and non-restraint.
2. The extent to which *mechanical restraint* is employed in the asylums of Britain and other countries, and especially of *England*, as compared with other countries.
3. The *forms* in which such restraint is applied.
4. The *reasons* assigned for its application—the *objects* proposed to be attained thereby.
5. The nature of the *substitutes* employed for mechanical restraint by those who disapprove of it.
6. The *results* of the use of these substitutes; with
7. The results of the simple *non-use* of mechanical restraint.

IV. I have been over and over again, especially in England, strongly urged to publish the result of all these inquiries—a *résumé* of all the information collected—a tabulation of recently expressed opinions for and against the use in some form and in certain cases of mechanical restraint.

II.—THE RESTRAINT CONTROVERSY.

The late Sir Henry Holland, in his *Recollections of Past Life* (p. 322), says:—"The time and temper of the physician are both grievously wasted if submitted to controversies, utterly useless, where ignorant asseveration takes the place of that evidence which alone can establish a medical truth. In such cases, I have myself generally found the refusal of discussion a more effectual answer than any train of reasoning. One of the sharpest weapons in argument is *silence*, and the most provoking to an adversary, if this were an admissible motive. But there are few who have patience and discretion enough to make the proper use of this resource when the feelings, as well as the reason, are called into play."

My own experience and practice have been very much those of the sagacious baronet. It has been my lot to be misjudged and misrepresented by those whose "ignorant asseveration" proclaimed itself, and furnished its own antidote and punishment. I have always felt, and have acted on the feeling, that

> "The noblest answer unto such
> Is kindly *silence* when they brawl."

Unfortunately, however, the men who substitute "ignorant asseveration" for "evidence"—who prefer an indulgence in undignified personalities to the discovery of a "truth"—do not appreciate the intended kindliness of such "silence." On the contrary, finding themselves unchallenged, they believe themselves to be unchallengeable; and they continue their "ignorant asseveration" in season and out of it, till this asseveration is currently accepted as a statement of fact. The result of such an acceptance of unsupported asseveration —so far as concerns the use, non-use, and abuse of mechanical restraint in the treatment of the insane—has been most disastrous. In consequence of its having come to be believed in other parts of the world that what I shall hereinafter speak of—for the reasons presently to be assigned—as *Conollyism*, is the general creed of the alienists of Britain, the principle and practice which that preposterous doctrine embodies have been adopted—temporarily, however, I do not doubt—in a way and to an extent that has been more productive of evil than the so-called "system" Conolly's practice was designed to supersede.

III.—CONOLLYISM.

In his *Treatment of the Insane without Mechanical Restraints,* published in 1856, Dr Conolly professed "the extremest jealousy of admitting the *slightest occasional appliance* of mechanical restraints in any asylum. Once admitted, under whatever pretext," he asserted, "and every abuse will follow in time" (p. 29). "No fallacy can be greater," says he, "than that of imagining what is called a *moderate* use of mechanical restraint to be consistent with a general plan of treatment in all other respects complete, unobjectionable, and humane. The abolition must be *absolute,* or it cannot be efficient" (p. 31). "In a well-regulated asylum, such modes of restraint are *never* thought excusable" (p. 59). "Restraints and *neglect* may be considered as synonymous; for restraints are merely a general substitute for the thousand attentions required by troublesome patients" (p. 323). "In whatever asylum mechanical restraint is avowedly often resorted to, many of the evils and neglects of which I have spoken do also still actually exist, and *must* exist" (p. 357). "When established as a part of the system in any asylum, it always became by degrees the predominating part. Its progress was uniform, certain, inevitable" (p. 358). "If, unhappily, the general use of restraints should, in the capricious revolutions of medical opinion, again be established . . . . all security for the proper treatment of insane patients will be taken away. One *abuse* will follow another: all kinds of neglect will gradually be practised, and the slow introduction of the most detestable parts of the old treatment will be inevitable" (p. 360). "The certainty of abuse creeping in on the use of coercion, wherever it is permitted, is an argument against it, which nothing can overcome" (p. 231). "There is *no* asylum in the world in which *all* mechanical restraints may not be abolished, not only with perfect safety, but with incalculable advantage" (p. 261).

It is quite clear, then, that Conolly insisted upon the "*entire* disuse of restraint" (p. 175), declaring that, in *no case,* however exceptional, is mechanical restraint justifiable; and that the physician who uses such a mode of treatment is culpable, while the asylum over which he presides must become a very pandemonium. This intolerant and intolerable dogma—opposed as it is to all common sense, common feeling, and common experience—I have designated *Conollyism,* because it was undoubtedly by means of Conolly's publications that the dogma became popular, and mischievous in proportion to its popularity.

But there is a claimant for priority of discovery of what has been most absurdly and extravagantly termed the "Non-Restraint System," in the person of Dr Gardiner Hill, formerly of the Lincoln Asylum. In the *Medical Directory* for the present year (1878) this gentleman describes himself as the "author and originator of the non-restraint system of treatment in lunacy," and as the author of works with the following titles:—1. *A Concise History of the Entire Abolition of Mechanical Restraint in the Treatment of the Insane, and of the Introduction, Success, and Final Triumph of the Non-Restraint System* (1857). 2. *Lunacy, its Past and Present* (1870).

From the first-named work we learn (p. 51) that a public testimonial was presented to its author, as a public benefactor, in 1851, part of the inscription whereon bore that he was the "author and originator of the *total abolition* of restraint in the treatment of the insane, now commonly called the non-restraint system." He refers complacently to "that *system* of treating insanity which I had the happiness of *discovering*" (p. 52). "No such statement as mine," he tells us, "had been made by any man living" (p. 12). He denounces mechanical restraint as "*in all cases* injurious, and its application consequently unjustifiable" (p. 12). The term non-restraint "was coined by myself to express the *total abolition* of all instrumental restraint" (p. 54).

Here again there can surely be no mistake as to our author's meaning or opinions, which are virtually, so far as we can judge, those of Conolly.

Leaving Conolly and Hill to share the glory of such a discovery as has been herein above described in their own language, I go on to say, that in the course of five and twenty years I have heard only of three out and out supporters of Conollyism, two of whom are Conolly's own sons-in-law. These three gentlemen, all of them physicians of experience in lunacy practice *in England*, are—

Professor Maudsley, and Dr Harrington Tuke, of London, with Dr Lockhart Robertson, formerly of the Sussex Asylum.

To these names we must apparently add that of the late Dr Hutcheson of Glasgow, for Conolly tells us that the inscription on the foundation-stone of the Royal Asylum at Gartnavel, on the suggestion of Dr Hutcheson, "recorded that, into that institution mechanical restraint was *never* to be introduced."[1] How far his more liberal successor in office, Dr Yellowlees, has held or may hold himself bound by such a restriction I know not; but he has left us at no loss as to his own views on "mechanical restraint in cases of insanity."[1]

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[1] *Treatment of the Insane*, p. 298.

I am sorry that Conolly's disciples are not more numerous, because, while sharing in the prestige attached to his name and works on the one hand, they might share the burden of responsibility for the mischief he and they have done on the other.

In a special manifesto he has given to the world on the treatment of the insane without mechanical restraints,[2] Professor Maudsley says, "I certainly do not hesitate to express a strong personal conviction that the use of mechanical restraint in any asylum, public or private, is an indication of a *badly-managed* institution, and that its use in the treatment of private cases is *unnecessary and prejudicial* (p. 199). . . . . How little a *system* of mechanical restraint fulfils the conditions of the first principle of treatment is so plain that a wayfaring man, though a *fool*, can hardly fail to see it (p. 196). . . . . To scold, bully, or punish an insane patient would be almost as injurious to him, and certainly as contrary to the true principle of the non-restraint system, as to apply mechanical restraint" (p. 195).

Dr Maudsley admits that the new or non-restraint system, at all events, has not produced a greater number of recoveries from insanity. He raises the question whether the present "asylum system," in some quarters so much belauded, "is so much superior to the old system as some persons imagine." He points, indeed, in 1872 to "a considerably *lower proportion* (of recoveries) than under the bad state of affairs before 1845."[3]

An obituary eulogium of Conolly gravely asserts that "what Conolly did was not merely to *abolish* restraint and torture within the sphere of his personal control, but to render their continuance *impossible within the limits of civilization;*" to show that "*all coercion* applied to the insane is *not only unnecessary but hurtful.*"[4] Unfortunately, however, for Conolly's reputation, and that of his partisans for fairness or freedom from bias, the pictures he paints[5] of the evils of restraint apply with much greater truthfulness to those of his own system, non-restraint.

The views of Conolly and his school have been continuously advocated by two medical journals—the *Journal of Mental Science* and the *Lancet*—and frequently in language so very similar, that it would appear as if the advocate had been in both journals the same. It will be seen from the quotations given subsequently, that in one case at least, that of Dr Lockhart Robertson, the same writer did ventilate his opinions in both the journals in question. Of the character of some of the diatribes of the *Lancet* the following may be taken as a specimen, its date being so recent as 1872: "The infliction of mechanical restraint demoralizes those who use it and those who suffer it, giving rise in the long-run to negligence and brutality in the former, and to dirty habits, noise, and excitement in the latter."[1] It is significant that the *Lancet* reviewer withholds his name; while those whom he criticises, and who are fair representatives of the county asylum superintendents of England, viz., Dr Yellowlees, then of Glamorgan, Dr Murray Lindsay of Derby, and Dr Hills of Norfolk, all speak out in their own names, and in bold, honest, manly, moderate language, expressing views to which they are as fairly entitled as can be any anonymous critic on the *Lancet* staff. Thus, Dr Hills, winding up a series of letters in the *Lancet* in 1872, inaugurated by Dr Yellowlees, confesses that "for eighteen years I have seen mechanical restraint employed in certain cases *with the best results*,"[2] and there are many asylum physicians who could give the same emphatic testimony, were they only not afraid of subjecting themselves to the sneers and abuse of anonymous critics. But let them take courage, remembering what was long ago said by that grand expositor of human nature, Shakespeare, in his King Henry VIII.:—

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[1] *Lancet*, vol. i. for 1872, p. 700.

[2] In the *Practitioner* for October 1870.

[3] "Is Insanity on the Increase?"—*Brit. Med. Journal*, vol. i. for 1872, p. 39.

[4] *Journal of Mental Science*, vol. xvi. p. 147.

[5] For instance, in the quotation given in *ibid.* p. 146.

. . . . "We must not stint
Our necessary actions in the fear
To cope malicious censure."

Or by another poet:—

"He is brave who dares to be
In the right with two or three."

Or by the Poet Laureate of our own days, Tennyson:—

"Because right is right, *to follow right*,
Were wisdom in the *scorn of consequence*."

IV. *The Practice of Conollyism by Conolly and his Disciples.*

That practice is frequently something sadly different from profession or precept, Conollyism during the last five and twenty years furnishes a striking illustration.

Firstly, as regards the founder of the new faith, Conolly himself, we find the very man who objects to the use of any simple means of confining the hands, and so preventing dangerous mischief, advocating the use of *padded rooms* and *seclusion*.

Seclusion he regards as a necessary alternative in the case of patients "who, if at large, *must* be degraded by the muff and sleeves" (p. 232). But seclusion implies loss of fresh air and of due exercise, of society and its advantages, none of which need be withheld from violent patients whose fingers or hands are confined by mechanical means.

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[1] Vol. i. for 1872, p. 700.

[2] Vol. i. for 1872, p. 810. *Vide* also p. 740 and p. 880.

He considers *padded rooms* "the real substitutes for restraints in very violent cases" . . . and "of the highest importance, offering indeed an auxiliary, *without which* it is questionable whether or not restraint *could be entirely dispensed with* in any large asylum" (p. 42). "Where there are no padded rooms to resort to, I fear some parts of this ancient treatment must be *scarcely avoidable*, for many patients, particularly in the early stage of their malady, cannot safely be at large in the wards *except in close restraints*, nor safely placed in an ordinary sleeping-room unless they are *fastened to the bedstead*. . . . This state may continue for many days, or sometimes for many weeks; and for meeting such exigencies the padded room and much watching, and all practicable attentions, seem alone adapted" (p. 49).

Here we have some singular and serious admissions, qualifications, and assertions, that of themselves go far to neutralize his own dogmatism as to the "entire disuse" of mechanical restraint.

Now the occasional use made—or rather abuse—of *padded rooms in Hanwell* may be illustrated by the Nistri case, that figured in the London journals in 1869,—the case, that is, of a poor Italian, who died there "with breastbone crushed in, and nine broken ribs," supposed to have been produced by attendants kneeling on his chest, whilst forcibly dressing him in a padded room. The *Daily Telegraph* of 30th October 1869 had a leading article on the subject, in which it referred to the poor man's body as "a corpse, bruised and battered, left to give mute evidence of suffering, at least, if not of ill-treatment." Among other curious particulars brought out at the inquest was the further use of a *box-bed* in a padded room.

Referring to the introduction into asylums of what he constantly describes—like Gardiner Hill—as a "new system," which means neither more nor less than the *non-use*, even in proper cases, of mechanical appliances for the restraint of hands or feet, and which is therefore a mere feature that may belong to any "system" or scheme of treatment, Conolly naïvely confesses—is compelled by the inexorable evidence of daily recurring facts to do so:—"All this, however, supposes a complete establishment, humane attendants, faithful officers" (p. 60): supposes, that is, a Paradisaical or Utopian state of matters that in a quarter of a century of travel abroad and at home I have not yet met with, and do not expect to meet with, so long as human nature remains what it is!

I have twice, at least, visited Hanwell, the scene of Conolly's operations, on the last occasion spending several days there. I have also, mostly in or around London, met with several of Conolly's former subordinates at Hanwell; and I have carefully read several of his publications, sometimes more than once. The result is, that I have been struck with the following things:—

1. That, notwithstanding all the operations and traditions of Conolly, although its affairs have been administered since his day by a series of disciples professing his views, Hanwell is one of the worst asylums I have seen in any part of the world, whether as regards its structural arrangements or its government.

And I am emboldened to say so by the circumstance that herein Conolly himself agrees with me, for he points out in no doubtful language the shortcomings of Hanwell in the last chapter of his *Treatment of the Insane* (*e.g.* p. 370, *et seq.*), or in the last of his *Lectures on Lunatic Asylums.*[1] He there indulges in severe animadversions on the misgovernment of Hanwell, dwelling on its unqualified directors and on the false position of its physicians.

2. Notwithstanding their training by, or under, Conolly himself in his own "non-restraint" principles, some of his own former officers have been among those who, on the one hand, have most strenuously urged me to publish a manifesto in favour of *toleration and moderation* in opinion and practice, and, on the other, have themselves, guided by their own experience, most keenly recommended the use in proper cases of *mechanical restraint.*

Dr Gardiner Hill—Conolly's rival in the discovery of "non-restraint"—at the Lincoln Hospital himself, *after* the public proclamation of his famous dogma, directed the application of *mechanical restraint,* apparently by *wrist-locks,* in attempting to fasten which the patient "was thrown down and overpowered." This procedure lasted eighteen hours, and its necessity was ascribed to "a disorganized state of the staff of attendants."[2] But such a condition of the staff of attendants may be said to be in asylums the rule and not the exception. So far, at least, as my own experience goes, and it includes conversations and correspondence with scores of asylum physicians, and the perusal of hundreds of asylum reports, a satisfactory "staff of attendants" exists in no asylum, nor is a perfectly trustworthy staff attainable. Here again, then, in Dr Gardiner Hill's case we have a striking contrast between precept and example, theory and practice.

In consequence of the invitations so copiously issued to all the world in the *Journal of Mental Science,* while it was under his editorship, by Dr Lockhart Robertson,[3] to visit the Sussex Asylum, as one offering unrivalled facilities for the study of the proper treatment of the insane, I made a pre-announced inspection of it at the time I was studying the results of Conollyism in the large asylums in and around London. I have read many of Dr Robertson's publications, and those of his successors in office, mostly in the *Journal of Mental Science*, as well as the annual reports of the Sussex asylum. And I have no difficulty in conceding a distinction to that asylum as the scene of—

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[1] Quoted in the *Journal of Mental Science,* vol. xix. p. 647.

[2] *Brit. and Foreign Medico-Chirurg. Review,* April 1869, p. 341.

[3] *E.g.* in vol. ix. pp. 146 and 299.

1. The use, under Dr Robertson, of the *most complete form of mechanical restraint* with which I am acquainted, that which he calls the *wet pack*. I have myself tried it, and can estimate its operation, therefore, both as regards the application of water and the application of restraint. And I mention this fact—that I have subjected myself to the wet pack in hydropathic establishments before offering an opinion as to its hydropathic or restrictive powers—as a lesson to those who make rash assertions[1] concerning things they have never seen, and operations of which they can know nothing.

In 1869 there occurred an investigation by the Commissioners in Lunacy of a *death after the wet pack* in the case of a certain Ellen Hood, in the Sussex Asylum, which brought to light circumstances that "show the danger attending this mode of treatment even in the most skilful hands."[2]

In 1860, Dr Robertson thus addressed the Secretary of State for the Home Department and the Commissioners in Lunacy concerning a certain criminal lunatic, then under custody, if not treatment, at Haywards Heath :—"I have placed him in seclusion and under personal restraint, his hands fastened to a belt ; and . . . . I feel it my duty, looking to the safety of the other members of the establishment, equally under my protection, to keep him in this condition of *seclusion and restraint* so long as it shall be the pleasure of the Secretary of State that he be detained here."[3] And commenting on his "memorandum," he tells us he "kept *both his hands fastened in the ordinary police belt* during his stay here. Had that stay been prolonged to the day of his death, I would not, I think, have felt myself justified in authorizing the entire removal of the restraint."[4] Now this language, this opinion, this practice, are all equally emphatic, and they show, not only that Dr Robertson did not hesitate to use what he deemed the only safeguard against danger from a homicidal lunatic, viz., confinement of the hands,—the most probable means of inflicting injury,—but that he used *different forms of mechanical restraint* in different classes of cases.

Notwithstanding, however, the use of the sheet pack—in other words the *maximum* of mechanical restraint—and of the police belt by himself, and the common use of the camisole, or other means of fastening the hands or legs, in at least several other English asylums, he assured the world in 1869, that "in the public asylums of England, containing 30,000 patients, *no mechanical*

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[1] Wholesome illustrations of some of the consequences of *rash* statements are to be found in Dr Paterson's *Biography of Prof. Syme*, 1874, pp. 219 to 221.

[2] *Twenty-third Report*, p. 41.

[3] *Journal of Mental Science*, vol. vi. p. 390.

[4] *Ibid.*, p. 391.

instrument of restraint whatever has, for the last fifteen years, been used!"[1]

2. The use also—to an extent that is, at least, not common in other asylums, and is emphatically condemned[2] in many—of what is frequently designated, in contradistinction to mechanical restraint, *medicinal restraint*,—that is, the quieting of noisy, violent patients by means of soporifics or narcotics. In Sussex the favourite form of drug used seems to have been digitalis, which figured, along with the wet pack, in an inquest on a certain James Snashall at Brighton in February 1864.

3. The padded room would also appear to be one of the institutions of the Sussex asylum,[3] for we read in 1870 of a fatal case of *fractured ribs* in a padded room there. And this leads me to remark that *broken ribs* are one of the common fruits *in England* of the *non-use* of mechanical restraint, or of protection beds, which do not confine either hands or legs, and prevent a whole host of accidents that are liable to occur to asylum patients.[4]

Moreover, that *manual restraint* is applied at Sussex is rendered probable by the fact that Dr Williams, now its physician, in 1864 gave a full account of his mode of rendering patients that required artificial feeding "perfectly restrained" and "completely mastered." He frankly admits that, under some forms of manual restraint,—that is, by the hands of attendants,—the patient "surely becomes covered after a few operations by a mass of *bruises*."[5] He has adopted his predecessor's *wet-pack* method of treatment; though it is instructive as showing "what's in a name," even in the treatment of the insane, that he discontinued its use for a time on the English Commissioners in Lunacy and other authorities regarding wet-packing as *mechanical restraint*[6] *by swathing in a sheet*, and restraint of the most thorough kind, involving not hands only, or legs also, but the whole body.[7]

Conollyism, as a rule, has been strenuously advocated by the *Journal of Mental Science*, which, while under Dr Robertson's editorship in 1863, made such declarations as the following:—"*No progress* in the moral treatment of the insane can be made where restraint is practised, even as no real political freedom can grow up beside the accursed system of slavery.[1] . . . . If restraint be permitted in an asylum *at all*, the principle of non-restraint can *never* take root there—the whole inner life of an institution is transformed when mechanical restraint is resorted to—the sentiment of force and of repression springs up with the feelings of fear and suspicion, and loosens the bands of mutual forbearance, confidence, assistance, and *charity*."[2]

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[1] *Journal of Mental Science*, vol. xv. p. 142.

[2] See what was said by several of the witnesses examined before the Dillwyn Committee of last year on the *artificial production of dementia* by drugging, as well as by Dr Blandford in his *Manual*, *e.g.*, pp. 232 and 248.

[3] *Journal of Mental Science*, vol. vii. p. 271.

[4] See what I have said on the "Protection Bed and its Uses" in the *Edinburgh Medical Journal* for February 1878, with plate.

[5] *Journal of Mental Science*, vol. x. p. 374.

[6] *Ibid.*, vol. xix. p. 648.

[7] The *wet-pack* form of restraint is or was used also in the Wakefield Asylum (*Twenty-sixth Report of the English Commissioners in Lunacy*, p. 204); and in that of Jersey (*Lancet*, vol. ii. for 1869, p. 484). The *dry-pack*, again, —but "what was really a strait-waistcoat," according to the Commissioners in Lunacy,—is or was employed at Wyke House, Ilesworth, London (*Twenty-second Report of said Commissioners*, p. 58).

Dr Robertson's piteous wailings over the then approaching downfall of Conollyism and Conolly-worship—for,

"*Ad summam quicquid venit, ad exitum prope est*"—

are to be found in a letter by himself in the *Lancet* in 1868,[3] and I willingly assist in giving it all the publicity he sought for it, regarding it as I do as a characteristic sample of the style of *support and defence* that Conollyism is supposed to require.

> "*Non tali auxilio nec defensoribus istis*
> *Tempus eget!*"[4]

I have never visited the Manor House, Chiswick; but I have read many of Dr Harrington Tuke's contributions to the *Journal of Mental Science*, and especially those in support of Conollyism.[5] I was not a little surprised, then, when I read in the *Daily Telegraph*, in 1876, the details of an indictment by the English Lunacy Commissioners of an attendant at the said Manor House, in which, in connexion with the suicide of a patient, a veritable *strait-jacket* or waistcoat figured conspicuously. The Commissioners in question tell us in their very last blue book (1877, p. 108), that in the case of the said patient "it was deemed advisable to place him under restraint by means of a strait-waistcoat for three or four nights." Then a certain attendant, "without any orders from either of the medical officers, placed the patient again in the strait-waistcoat." And I was equally surprised when, some years ago, a young lady, suffering from acute suicidal mania, was sent to me from the same private asylum, and under charge of its attendants, who reported, on their arrival at Perth, to show the difficulty they had in controlling an obstreperous patient, and preventing scenes in the railway carriage, that they had to lay her on the carriage floor and *sit upon her*. Here, again, we have the substitution of what cannot be called manual, but may well be designated *personal*, for mechanical restraint—restraint by the persons of attendants. Though dangerously violent previously, that same patient became at once calm, and slept like a child in a protection-bed.

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[1] Vol. ix. p. 145.

[2] *Ibid.*, p. 90.

[3] For 26th December 1868, p. 826.

[4] His dogmatism and inconsistencies in other matters connected with the treatment of the insane have been well exposed by Dr Mitchell, one of H.M. Commissioners in Lunacy for Scotland, in the *Journal of Mental Science*, vol. xiii. pp. 475 and 497.

[5] Specimens of the language in which he speaks of those of his professional brethren who differ from *him* in opinion and practice may be found in his evidence before the Dillwyn Committee of last year, as quoted in the *Journal of Mental Science* for January 1878, pp. 484-5—a language whose style may be compared with that of Dr Robertson in the *Lancet*.

We learn, moreover, from the Reports of the English Lunacy Commission, that at York—the headquarters of the Tukes, who claim with Pinel the honour of striking the fetters from the maniac—*mechanical restraint* is employed in proper cases, or was so in 1875 and 1876.

It would appear, then, that Conolly and Gardiner Hill, or their disciples, in giving up ordinary appliances for the confinement of the hands or legs, or both, use, did use, or approved of the use of, the following *substitutes*:—

1. *Complete* confinement or *restraint of the whole body* by means of swathing or tight *wrapping in a sheet*—a process that gives the unfortunate subjected to it the gratification of feeling himself a living mummy for the time being.

2. *Drugging* or narcotizing—and thereby stupefying into quietude.

3. *Seclusion* in padded rooms, which permits of nudity and dangerous exposure to cold, as well as exhaustion by excessive and untimely bodily exercise, with other evils arising from a comparatively unrestricted liberty.

4. *Manual or personal restraint*, mastery by the hands or persons of attendants—a mastery that involves *struggles* for physical supremacy, which struggles in their turn involve *rib-fractures* and other accidents—major and minor. On this point the *British Medical Journal*, in a leader on "Our Lunacy Systems,"[1] remarks: "There is no difficulty, to our mind, in tracing all these *accidents* to struggles—possibly unavoidable under existing traditions—between patients and *attendants;*" to the "means adopted by the attendants to repress sudden outbursts of excitement or passion on the part of the patients."

In other words, the *practice* of Conolly and Hill, and their school, furnishes illustrations not only of manual and medicinal, but also of *mechanical restraint* itself, and in its *most thorough-going form*.

Well might an English reviewer ask, in 1869, "Are we, as Englishmen, *honest* in our representations regarding non-restraint, and in contrasting our practice with that of the Continent?"[2]

Let the answer come from the *Journal of Mental Science*, or its then editor, Dr Lockhart Robertson, who thus wrote in 1863:—"It is either *a fact* that we at Hayward's Heath treat . . . . 500 lunatics of every description . . . . *without any means of restraint*. . . . . . Or if *not a fact*, our assertion—which we boldly repeat—

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[1] Vol. i. for 1871, p. 345.

[2] *Brit. and Foreign Med.-Chirurg. Review*, April 1869, p. 386.

is certainly an *English swindle*."[1] This is precisely the conclusion that had been come to by Dr Neuman, Dr Erlenmeyer, and other distinguished German alienists, to whom Dr Robertson had in vain offered bed, board, and clinical instruction at Hayward's Heath[2] in order that some one of them might, to use Dr Robertson's own words, "convict us before the scientific world—by fact of his own observation—of *gross imposture and swindle*."[3] "Shame," he declares, "which is the portion of the *false witness against truth*," awaits the man who will not "first avail himself of *our hospitable offer of entertainment, and clinical instruction* in the principles and very keystone of the art which he thus proposes to expound. . . . We can assure him that a week's clinical study here will send him home a wiser man as well as a more humane practitioner of the healing art."[4]

(*To be continued.*)

ARTICLE V.—*The Dull Wire Curette in Gynæcological Practice.* By PAUL J. MUNDÉ, M.D., Assistant Surgeon to the New York Women's Hospital; Fellow of the New York Obstetrical and American Gynecological Societies.

(*Continued from page* 826.)

Manner of using the Wire Curette.—As a rule, it is not necessary to anæsthetize the patient—indeed I have never done so, for nearly all my cases were operated on at my office or at the dispensary, the patient being dismissed to her home immediately after, with the direction to remain quiet for twenty-four hours, and to avoid exposure to cold. Still, in exceptionally sensitive or nervous patients, it may be advisable to do so.

It is doubtless possible to introduce the curette into the uterus, and scrape over more or less of its cavity though a bivalve or cylindrical speculum, or without a speculum, on the finger only; but such a procedure can be at best incomplete (then truly performed "almost at random," as Atthill says), because the narrow field afforded by the specula named prevents free movement of the instrument. An inflexible steel curette can doubtless accomplish its purpose when simply introduced on the finger, and I have repeatedly removed both carcinomatous masses and large masses of placenta in this manner with Simon's scoop, guarding uterus and instrument with the other hand on the abdomen. But the only true way of operating with Thomas's curette, and the only way in which he uses it, is through Sims's speculum in the left semi-prone position. It is true this speculum requires the presence of an assistant, but almost every adult person will suffice for the purpose in so simple and rapid an operation; and the comfort and advantage obtained by the use of this, really the only perfect speculum, is incalculable.

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[1] *Journal of Mental Science*, vol. ix. p. 298.

[2] *Ibid.*, pp. 146 and 299.

[3] *Ibid.*, p. 299.

[4] *Ibid.*, vol. ix. p. 146.

The patient having been placed in Sims's position, and the cervix being exposed with Sims's speculum, the operator seizes the anterior lip of the cervix with a tenaculum, draws the uterus gently down, thereby straightening its canal, and holding it steady, introduces the sound or probe to ascertain the direction and length of the uterine canal. Bending the shank of the curette, in accordance with the information thus obtained, he passes it into the cavity of the uterus, which he carefully explores by drawing the curette gently over the whole mucous membrane, always in the direction from the fundus to the internal os. Should the vegetations be large or very numerous, or the mucosa much hypertrophied, a certain feeling of resistance or a rough grating sensation will be imparted to the finger of the operator, revealing to him the presence of the neoplasms. In case of adherent placental remnants, this grating sensation is particularly distinct, and can even be faintly audible to the bystander. A very slight flow of blood accompanies this operation, never more than a tablespoonful or two. Having completed this tour of the uterine cavity the curette is withdrawn, bringing with it blood, and, if present, vegetations, placental fragments, or carcinomatous masses. These are easily secured and detected by wiping out the vagina with dry cotton, on which the small, pale, flat, elongated, homogeneous-looking vegetations, or the firmer particoloured placental fragments, are readily discernible amid the coagula. The detection of sarcoma will devolve on the microscope. If the operator wishes to make sure that all neoplastic formations have been removed, the curette may again be introduced, and the vagina tamponed with cotton soaked in glycerine, and the patient dismissed. In severe cases I have seen Dr Thomas order a dose of morphine after the operation; but as a rule no other immediate after-treatment than rest is required. I have been in the habit of painting the whole of the uterine cavity, immediately after cleansing it with cotton, with Churchill's tincture of iodine, as a styptic, and caustic (although really not needful as such), and chiefly as a disinfectant and alterative, to ensure the thorough destruction of the neoplasms and the absorption of the hyperplastic tissue; in protracted cases, where the number of vegetations was great or the hæmorrhage profuse, I have left a tent of cotton soaked in iodine in the uterine cavity, allowing it to be expelled by uterine contractions after several days. I have never seen the least ill effects from this treatment, but do not deny that I may be mistaken in considering it more efficacious than the simple painting of the cavity.

Should the neoplasm be discovered to be sarcoma, the cavity of the uterus would have to be thoroughly opened by laminaria, and nitric acid or the galvano-cautery applied.

As a rule the external os is, even in multiparæ, sufficiently patent to admit the curette, and the same may be said of the internal os, which the profuse hæmorrhage has tended to dilate. Occasionally, when even the smaller-sized curette will not pass, I dilate the internal os with Ellinger's steel two-branched dilator, and then experience no further difficulty. Thomas says that dilatation with tents is rarely required. Surely this is a great advantage! The pain attending the ordinary operation of curetting, as above described, is usually but slight; it occupies barely five minutes, and the reaction is *nil.*

Dr Thomas tells me that he has performed the operation "hundreds upon hundreds of times," and has never seen the least ill effects therefrom. As a rule, however, where feasible, it may be advisable to avoid all risks, and perform the operation at the house of the patient or in a hospital, and keep her in bed for twenty-four hours afterwards. The simple introduction of the sound has produced cellulitis and metroperitonitis; it cannot be denied, therefore, that the wire curette *may* at any time (although thus far it has not done so), in a peculiarly susceptible patient, light up a similar trouble. But an ordinary diagnostic exploration of the uterus with the curette, and the removal of a number of vegetations, is really an almost innocuous procedure, and not likely to be followed by evil consequences, even if performed in the physician's office.

It must be borne in mind that, if the diagnostic curetting does not detect any cause of the hæmorrhage, at all events no harm has been done, and the negative answer is in itself valuable information. Cases are even met with in which the curetting, while not detecting any neoplasm, still cures the metrorrhagia apparently by its alterative stimulant action on the relaxed uterine mucous membrane. And this is doubtless the manner in which it benefits cases of granulation and diffused tumefaction of the endometrium without vegetations.

If the uterine mucous membrane is healthy the wire curette will not injure it, and no shreds will therefore be removed; with the sharp curette, however, even the most delicate and practised hand could scarcely avoid shaving off slices here and there, the depth of which lesions cannot always be foreseen. It is this latter diagnostic curetting which must be termed harsh and "unscientific."

Counter-indications do not really exist, except such as would equally prohibit the introduction of the sound, viz., acute or moderately recent pelvic or uterine inflammation, which should first be allayed by appropriate means before hazarding the curette.

The following 25 cases, taken from over 1200 gynecological cases met with in my private and dispensary practice during a period of three years, since which time I have been using the instrument, are briefly reported in illustration of the innocuousness and curative value of Thomas's dull wire curette, and of the frequency with which its employment is called for:—

1. M. R., 28 years, married, two children. Bilateral laceration of the cervix. Seen 9th December 1874. Metrorrhagia for some time; no assignable cause. Curette, removal of a number of vegetations. When seen again, 14th December, hæmorrhage had entirely ceased, and did not return.

2. A. F., 27 years, married, two children, miscarriage four months previously. Seen 18th December 1874. Flowing since miscarriage. Curette, removed a number of firm fleshy masses; found under the microscope to be placental villosities. Strong tr. iodine to uterine cavity. No return of hæmorrhage.

3. B. K., 26 years, married, two children, one miscarriage 9th January 1875. Flowing since then; not arrested by hæmostatics. 9th March 1875, curette, placental fragments. Cure.

4. M. G., 33 years, married, seven children, miscarriage 2½ months previously. Flowing for two weeks when seen 10th May 1875. Curette, placental fragments. Iodine. Cure.

5. A. T., 40 years, married, five children, four miscarriages at three and four months; last ten weeks before. Seen 22d October 1875. Flowing profusely since miscarriage, almost exsanguinated, waxy complexion; uterus anteverted. Curette, twice, followed by tr. iodine on cotton plug left in uterus, at intervals of a week. Removal of large quantity of placental villosities and real vegetations at first curetting; a smaller number at second. First curetting at patient's house, second at my office. Complete cessation of hæmorrhage, and rapid recovery.

6. E. E., 28 years, married, one child, one miscarriage at three months, one month before seen. Flowing since miscarriage. Uterus retroverted. Ergot, etc., ineffectual. 17th February 1876, curette, placental fragments. Iodine. 21st, no hæmorrhage. Discharged cured.

7. F. F., 38 years, married, seven children. Flowing since last delivery four months before. February 1876, curette, placental villosities and vegetations. Iodine. Cure.

8. F. M., 26, married, five children. Flowing since six weeks, probably miscarriage. 23d Oct. 1876, curette, placental villosities. Iodine. Cure.

9. F. M., 40, married, ten children. Menorrhagia for four years. External os gaping. 1st Nov. 1876, curette, but no vegetations nor other cause for hæmorrhage found. No reaction. Finally cured by repeated intrauterine application of tr. iodine.

10. B. G., 23, married five years, sterile. Chronic endometritis; profuse muco-sanious discharge and menorrhagia every three weeks, lasting seven days, for nearly one year. Iodine and tannin to endometrium ineffectual. 5th Dec. 1876, curette, large number of polypoid vegetations removed. Iodine. Cure.

11. S. Y., 25, married, one miscarriage. Anteflexion; cervical

canal patulous; bloody discharge. Menorrhagia since miscarriage, two months previously. Curette, without discovering placental fragments. Cured by iodine locally, frequently repeated.

12. H. M., 24, widow, one child. Profuse menstruation. Uterus three inches deep. Chronic endometritis. Long ineffectual local treatment by iodine, ferri persulph., etc. 13th Feb. 1877, curette, over one dozen vegetations removed. Iodine repeated at intervals of one week for several weeks. Cure of endometritis and menorrhagia.

13. K. K., 33, married, four children, six miscarriages; last four months previously. Probable retention of portion of placenta. Since miscarriage profuse menstruation, lasting sixteen days. 1st March 1877, curette, large number of placental villosities and polypoid vegetations removed. Tr. iodine. Cure.

14. Mrs T., 35 years, multipara. Patient of Dr L. Weber. Reputed miscarriage in third month six weeks before; no physician present. Since then flowing profusely, and quite exsanguinated when seen in consultation, 23d March 1877. Had been curetted once before, but flowing still continued. Uterus enlarged, cervical canal wide open, blood oozing from gaping os. Wire curette, removal of nearly half a cupful of placental villosities, some as large as a bean. Tr. iodine. No further hæmorrhage. Rapid recovery.

15. A. B., 30, married, three children, one miscarriage six months before. Uterus three inches deep, anteflexed. Since miscarriage profuse menstruation every two to three weeks, with offensive coagula. 15th March 1877, curette, large number of placental shreds and vegetations. Iodine plug. 10th April, slight mucopurulent discharge; otherwise well. Last menstruation normal.

16. F. W., 30, married, three children, one miscarriage eleven weeks before. Flowing since, although nursing last child. 26th March 1877, curette, placental fragments. Iodine. Cure.

17. A. T., 42, same patient as case 5. Has had two miscarriages since then; last nine months before. Now flowing since two weeks, probably miscarriage at six weeks. Uteri 3½ inches; external os gaping. Ergot and other hæmostatics in vain. 12th April 1877, curette, small villous masses removed, of doubtful nature, from posterior wall of uterus, probably placenta at very early stage. Tr. iodine repeated at intervals. Cure.

18. P. N., 38, married, six children, two miscarriages; last 4½ months before. Menstruation profuse for several years, frequently lasting ten to fourteen days. Cervical canal gaping, containing enlarged Nabothian follicles. Uterus 2½ inches deep, enlarged; ovaries congested. 9th July 1877, curette, about two dozen large polypoid vegetations removed; tr. iodine. 19th July, iodine repeated. No further menorrhagia.

19. B. F., 44, married, ten children, last five years before. Since then menorrhagia every two weeks. 16th July 1877, curette, vegetations. Iodine. Cure.

20. F. L., 35, married, five children, last thirteen months before. Since ten months, menorrhagia every two weeks. External os gaping, internal os narrow. 30th July 1877, curette, about half a dozen vegetations removed; iodine. Next menstruation still profuse. 23d August, curette repeated, several more vegetations removed. Cure.

21. B. M., 27, married, twins four years ago. Since three years, profuse menstruation, lasting the greater part of the month. 21st August 1877, flowing, external and internal os patulous; curette, about one dozen vegetations removed, one as large as a pea; iodine, 23d August. Hæmorrhage has entirely ceased. 27th, still no hæmorrhage. Cure.

22. M. G., 25, married, one child five years old. Since three months, menorrhagia, cervical canal gaping. 1st October 1877, curette, only two vegetations removed; iodine. Next menstruation moderate.

23. A. M., 38, married, five children, last 1½ years ago. Since then profuse menstruation, lasting nine days and longer; in the intervals leucorrhœa. Uterus retroverted and enlarged when first seen 10th December 1877. Mucopurulent discharge, bilateral laceration of cervix, eversion of lips. The curette removed a large quantity of pulpy shreds; tr. iodine. Next menstruation just over, lasted only ten days, and was moderate. Operation of cervix advised.

24. R. S., 27, married nine years, ten children, last two years ago. Since then menorrhagia ten days, in intervals, greenish mucopurulent discharge. 18th December 1877, curette, large number of vegetations and shreds; iodine. Menstruation last week in December, five days, moderate.

25. F. S., 31, married, six children, one miscarriage three months ago, flowing since. 18th December 1877, curette removed a piece of placenta of the size of a large bean; iodine. Immediate complete arrest of hæmorrhage, which had not returned to date.

It will be seen that only in ten of the twenty-five cases did vegetations prove to be the chief exciting cause of the hæmorrhage, while by chance thirteen instances of adherent placental villosities came under my care. Ordinarily the endometritic products predominate in practice. In five of these cases both placental remnants and vegetations were found, but the cases are classed under the former category, as the hæmorrhage came on shortly after a miscarriage, and the adherent portions of the placenta undoubtedly were the chief exciting cause. In the two remaining cases no cause could be found for the hæmorrhage, and they were cured by the repeated application of iodine. In twenty-one cases tincture of iodine was applied to the endometrium after the curetting. In two cases only was it necessary to repeat the curetting once. All the cases recovered without an untoward symptom. Only one operation was performed at the house of the patient; all the others at my office or in the dispensary.

Besides these cases, I have employed the curette a number of times for merely diagnostic purposes. In no case did ill effects follow its application.

In one case of profuse menorrhagia apparently following chronic endometritis, which came under my care before I was acquainted with the curette, I found myself compelled, after ineffectually applying tr. iodine, liq. ferr. persulph., and pure carbolic acid to the endometrium, to cauterize the latter with fuming nitric acid introduced through a glass tube. This arrested the hæmorrhage permanently, but was attended with considerable inconvenience, such as previous dilatation of the cervix with sponge-tent, confinement of the patient to bed, with iced compresses on the abdomen for several days as a prophylactic measure against inflammatory reaction (which, by the way, I now no longer fear after applying nitric acid to the endometrium), constitutional shock, etc. I am convinced that with the wire curette the patient could have been cured at once without any preparation whatever, and little or no after-treatment.

In two cases of adherence and retention of the *greater portion* of the placenta for several days after miscarriage at the third month, I found it advisable to remove the ragged and firmly adherent placental fragments by means of Simon's sharp scoop, which, after dulling the edge somewhat, I passed gently over the endometrium until all surface-roughness had disappeared. The uterine cavity was then injected with carbolized ice-water. In another case I removed a large fibrinous polypus formed on the placental site three months after the expulsion of a hydatid mole with Simon's scoop. All these patients recovered without a bad symptom.

These cases I mention merely to show in what instances of placental retention the use of the sharp curette may be justifiable; for the removal of the small placental nodules, however, referred to in the cases described above, which, small though they be, are often the cause of severe and uncontrollable hæmorrhage, the wire curette amply suffices.

It will not be denied that cases of menorrhagia, calling for the wire curette, such as I have cited in this paper, are of common occurrence, and that they fall into the hands of the general practitioner even more frequently, certainly at an earlier stage, than into those of the specialist. I trust I have shown that it is not necessary (as to my own knowledge is constantly done) to subject these patients to all kinds of useless internal and local hæmostatic remedies before finally sending them in an enfeebled and discouraged state to the specialist, who easily and speedily cures them by the use of an instrument which could be as easily, safely, and speedily employed by the family physician at the very outset of the case—provided, of course, he possess the requisite amount of gynecological experience to make the diagnosis. I will paraphrase Atthill by saying, that it is the "manifest duty" of the physician "in a case of menorrhagia *in an otherwise healthy woman*," proved by careful examination not to depend on an obvious uterine or vaginal disease, *not* to "dilate the cervix and os internum," as he advises, but to introduce the wire curette "with the view of determining what the condition of the interior of the womb may be."[1] That the curette will then remove the difficulty, if found to consist in one of the conditions already pointed out, much more gently and quite as effectually as the nitric acid of Atthill, I have already stated. In my opinion the wire curette should occupy a place in the modern gynecological armamentarium, second only to speculum, sound, and tenaculum.

In conclusion, let me summarize its advantages as follows:—1. Ease of application, requiring no previous preparation of the parts; 2. Almost complete harmlessness; and, 3. Efficiency, rendering after-treatment usually unnecessary.

ARTICLE VI.—*The Condition of the Hymen and its Remains by Cohabitation, Childbearing, and Lying-in.* By Prof. SCHROEDER. From the Reports of the Meeting of the Physico-Medical Society at Erlangen, 13th November 1871. Translated and Read before the Edinburgh Obstetrical Society, 13th February 1878, by Dr KIRK DUNCANSON.

GENTLEMEN,—I take the liberty of submitting to you several drawings which illustrate the condition of the entrance to the vagina, and especially of the hymen, after cohabitation and childbearing. It is known to you, that hitherto the general opinion has been that the hymen by the first cohabitation was torn, and that the cicatricial retracting remains of the same formed the carunculæ myrtiformes. It was also generally believed that those elevated warty excrescences at several places of the vaginal entrance were directly formed by the first coitus. This opinion does not agree with the real circumstances as inspection teaches. I have already, in the year 1867, drawn attention to the fact that the carunculæ myrtiformes are first formed in consequence of childbearing on account of parts of the hymen gangrenating.

This fact I find very frequently questioned in literature; it is confirmed, so far as I know, only by Bidder in Dorpat (see *Petersb. Med. Z.* 1868, p. 50). I have therefore, with the help of Dr Alt, my assistant, had drawings made of the vaginal entrance in a number of pregnant females before and again after the birth of the child, so that we can easily be convinced of the effect of the act of childbearing by comparing the two drawings.

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[1] *L. c.*, p. 83.

Before I submit the drawings to you, I will advance only a few introductory remarks.

The hymen is formed, as you know, from a fold of the mucous membrane arising from the edge of the vaginal entrance, and encircling with its free edge the opening leading into the vagina. If we state generally that the hymen is semilunar in shape, that is not quite accurate. It is more correct to represent the hymen as a membrane stretched out in the entrance to the vagina, in which there is an opening, not in the centre, but towards the orifice of the urethra, so that the larger border on that account lies towards the posterior commissure. In front the rim of the hymen is indeed smaller, but it is not wanting. This is the usual condition of the hymen. The rarer formations we pass over, as it is our purpose only to determine the physiological condition of the hymen. The opening of the hymen is of very different sizes. As a rule, it is at least so wide that one can pass the finger into the vagina without injuring the border of mucous membrane. The fold not rarely gets indeed considerably destroyed thereby, or even tears quite easily with little bleeding; yet, in the great majority of cases, the hymen can be preserved by a careful manipulation, so that an uninjured hymen by no means forbids an examination per vaginam. Exceptionally the opening can be so small that we cannot introduce the finger through it; indeed, it has been known that in an abnormal manner the opening can be entirely wanting. But it is much more common that the opening in the hymen is wide, so that the finger passes easily through, or that even the impetuous pushing in of the penis produces no tearing of the hymen. In the drawings which I will now submit to you, you will be astonished to see how frequently the hymen has remained wholly or almost entirely intact. The hymen frequently forms only a quite small stretchable rim, which is raised all around from the edge of the vaginal entrance in a pretty equal but insignificant elevation, and which on the pushing in of the penis simply yields without tearing.

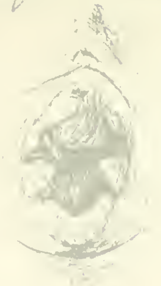
The hymen, therefore, not rarely remains almost unchanged by cohabitation, whilst it is only dilated by often repeated coitus, or only slightly indented on its free edge through slight tears. Where the opening is smaller, then, indeed, it is torn to a considerable extent, yet it is never torn to such an extent that real carunculæ myrtiformes are formed. These latter are formed, as we can easily convince ourselves by examining the vaginal entrance of sterile married women or of prostitutes, not even after very frequently repeated coitus. Through the pushing in of the penis the free fold of the hymen will at most be torn, so that one, two, and more tears are formed, which sometimes, but not at all regularly, reach the base of the hymen. Such tears are not rarely found just towards the back, most frequently towards the back laterally, but also just towards the side, most rarely forwards. As a rule, there are only one, two, or three; still, they may become much more numerous, and in the most extreme cases the hymen is changed into a continuous row of small projecting points. But in such cases there is always found, where the hymen springs from the edge of the vaginal entrance, a connexion between the separate small pieces, however numerous the tears may be. These stand here close by one another, there is never a space between them; every trace of the hymen has also never disappeared at that place of the vaginal entrance. On account of this condition, the entrance to the vagina of persons who have not borne children is characterized in contradistinction to that of others who have borne a child.

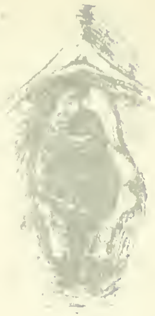
With the latter, the vaginal entrance undergoes, just in consequence of the birth, great changes. By the birth the narrow vaginal entrance suffers a dilatation when the head cuts out through it, which, as a rule, is not possible without lesions. We see, therefore, in the case of primiparæ, as well as of women whose entrance to the vagina has not yet been distended by former births, quite regular tears in the mucous membrane posteriorly, laterally, as well as anteriorly. But, besides that, the shreds of the hymen suffer a considerable bruising. If we examine the vaginal entrance of a primipara immediately after the delivery, when the blood has been carefully wiped away, we see the parts of the hymen still completely preserved, but infiltrated with blood, of a swollen appearance, and of a bluish-black colour. If we examine again a few days later, we find, in place of separate shreds, small ulcers, with a yellow exudation, or already a good granulating base. At the place where these ulcers are every trace of the hymen disappears, whilst on the other less bruised places remains of the hymen are preserved. These remaining parts which are preserved after the birth are the carunculæ myrtiformes. How much there remains preserved of the hymen is very varied, as you can at once convince yourselves from the drawings. The fold of mucous membrane below the orificium urethræ is commonly preserved, and is not usually reckoned to the carunculæ myrtiformes. Besides, there remains behind in the vaginal entrance different shred-like, warty, or tongue-shaped remains.

You will be able to see quite distinctly these conditions in the drawings before you, which are drawn from nature by Dr Alt. Each vaginal entrance is twice sketched, once before delivery, and once some time (ten days or later) after it. Those drawings, which are taken of primiparæ, demonstrate clearly the difference between the remains of the hymen as you find them in deflowered females (defloratæ) and the carunculæ myrtiformes.

You see in the first three double pictures the hymen during the pregnancy as a small completely preserved border, which presents only at separate places more or less deep indentations, but which nowhere extend to the base of the hymen. After the birth, you

Justina Aufnahme 6/VII 71 I Schwang. Walz 30/VII I Schwang.





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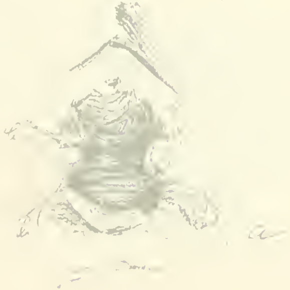
16/VII



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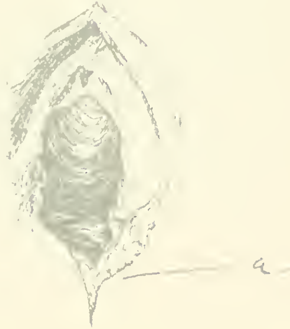


a. granulirende Fläche b. [illegible]

a granulirender [illegible]

Landsbach 9/X I [illegible]

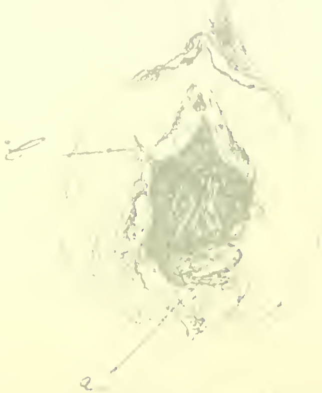
Carcinoma Ut.

I [illegible]
[illegible] 5 [illegible]

a [illegible]

Geheilt am 8/X : [illegible]

13/II 8/VII



a [illegible]

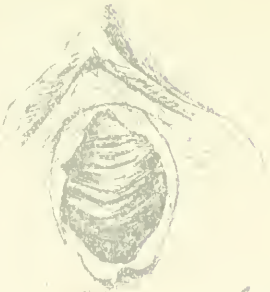
b [illegible]

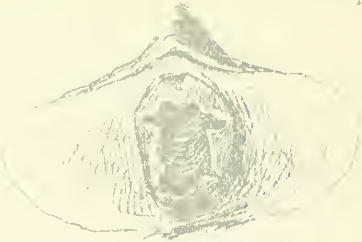
a. [illegible] Uterus

Heinicke 5/V

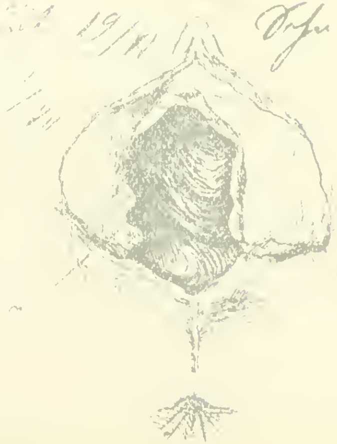
I Schwangerschaft
Menses 23/VIII

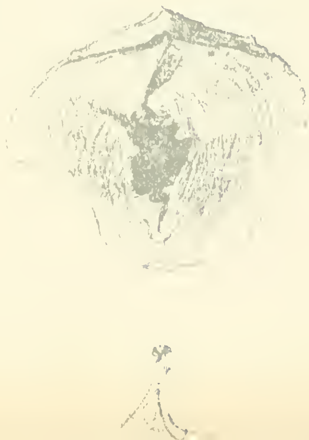
I Schwangerschaft





Geburt 19/XI [illegible] Geburt 23/IX



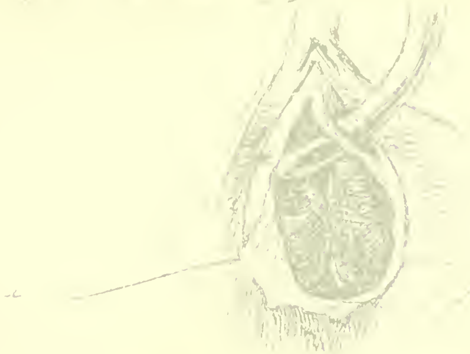


4.X.71

Granulation muss durch Incision entfernt

Formann 29/II   I. Eingriff.

Huber 17/VIII   II. Eingriff



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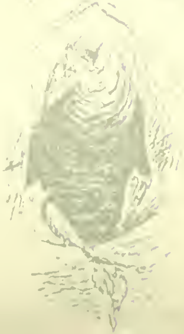
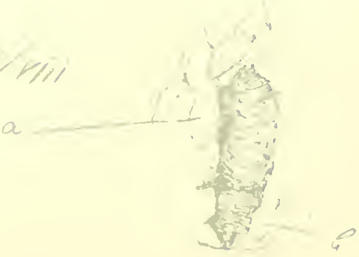
a [illegible] [illegible] [illegible]
[illegible]

Geheilt 23. [illegible] 8/VIII

16/XII

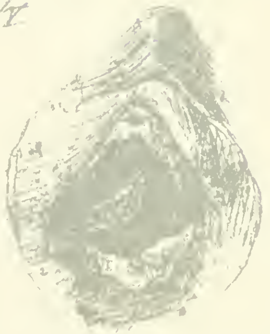




a Granulierende [illegible] [illegible] [illegible]
b Granulierende [illegible] [illegible]

PLATE V.

Weber 29/X



II Schwangerschaft
Das 1. Kind im
8 Monate
geboren
im Sommer
hat [illegible] bis
3 Wochen vor d.
Geburt der [illegible]
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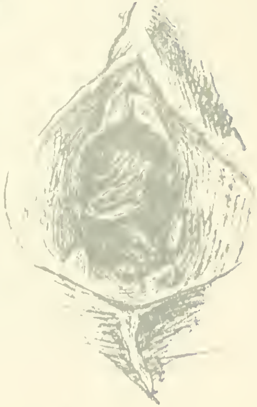
Ursache des Absterbens
nicht bekannt.

Geätzt am 4/VI Schorf [illegible]

14/VI

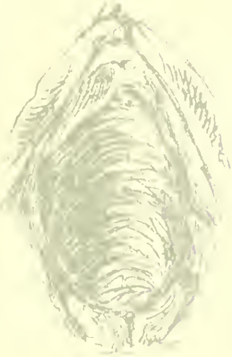


a Clitoris

PLATE

Gohlis 13/IX

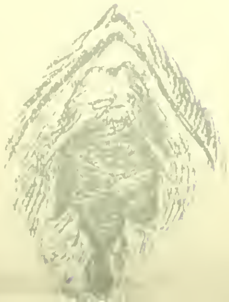
II Schwangerschaft



Vorfall der vorderen Scheidenwand

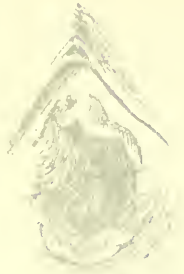
Geburt am 18/IX Schädellage

28/IX



Lebold 16/VII

II Schwangerschaft



Geburt 15/IX Schädellage

25/IX

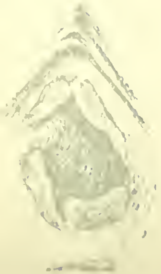
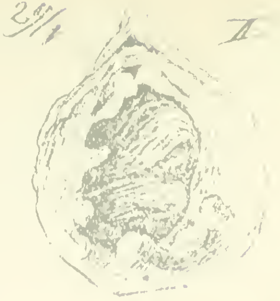
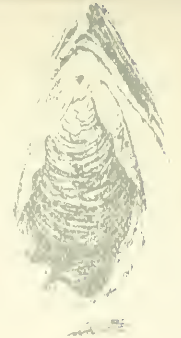


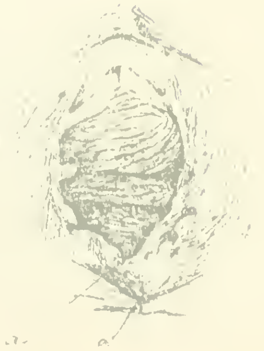
PLATE I.

Gehring 29/I II Schwangersch. Peter 21/VIII II Schwangersch.

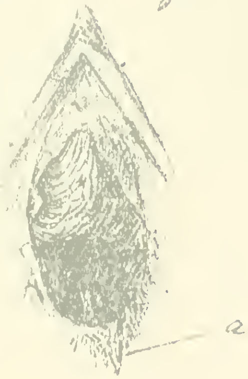




Geburt am 8 Tage Schädellage Geburt 28/VIII Schädellage



3/IX



a Granulirende [illegible] [illegible] Granulirende Rißfläche [illegible] [illegible]

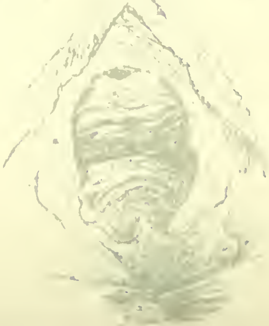
Huppmann 4/II III [illegible] Kugelsteiner 20/VI IV [illegible]

Geburt 3/VII Schädellage

a [illegible]

Geburt [illegible]/VII [illegible]

15/VII



[illegible]/VII

see two cases healed by the first intention, and in one case a superficial granulating tear of the perinæum. Besides, you see in the one case still two lateral tears going through the labia minora, which, although they have not so arisen, look exactly like artificially-made lateral incisions. In two of these cases, only a few wart-like excrescences have been preserved besides the fold under the orifice of the urethra; in the third are more numerous remains of the hymen, but still interrupted by wide openings between.

On the following leaf you will see a peculiarity of the hymen which I have observed a few times only. On the left hand forwards the fold of the hymen is torn away from its origin, so that one could quite easily pass a catheter through the opening. To the right the inner surface of the lesser labium has united with the external surface of the fold of the hymen. Also in this case, in which the hymen is nowhere quite torn through, and the entrance to the vagina is very wide, we have only single caruncles preserved.

The following three leaves show you much tattered hymens, the openings of which were originally very narrow. There is found in them a row of tears, some of which go to the base. The entrance to the vagina appears narrow in all, and in harmony with that, numerous granulating tears of the mucous membrane exist, and the parts so singled out remained over as caruncles. On the one drawing you see still granulating remains of the hymen.

Here you see the vaginal entrance of a primipara, which is distinguished by the hymen being still very complete, indeed, it has been preserved all but a wide gaping space posteriorly.

In the case of the pregnant one, whose vaginal entrance now follows, the whole vulva was exceedingly œdematous, and the vaginal entrance quite unusually narrow. We see on account of this the separate remains of the hymen projecting as thick round swellings out of the vaginal entrance. As the pelvis was narrowed in a high degree, perforation and cephalotripsy became necessary. The narrow vaginal entrance, in which lateral incisions had to be made, was very much injured. Besides a tearing of the perineum, the mucous membrane in the whole circumference of the mouth of the vagina was torn into, and these tearings, and especially one between the clitoris and urethra, as well as the lateral incisions, bled so much that tampons, with liquor ferri sesquichl., had to be pressed into them. On the seventh week after the delivery the vaginal entrance was again sketched. You see, in consequence of the above, no more trace of the hymen, but only thick white cicatricial strings stretching beyond the orifice of the urethra towards both sides. The lateral incisions, as well as the perineal tear, are likewise cicatrized. In the following case an abortion in the fifth month had previously taken place. This had, however, left behind it scarcely any trace, as the hymen was quite well preserved, all but a small opening to the left. The timely birth which followed thereafter has, as you see, left behind only a few caruncles.

The following leaf represents a similar middle position between the appearance of the vaginal entrance in a primipara and multipara. The pregnant one in question had at one time borne a dead putrid child in the eighth month. The vaginal entrance was, on account of this birth, much less distended than is usual. In conformity with that, is the fact that the hymen was completely preserved, with the exception of a pretty considerable opening on the right side. It was much destroyed, all but a few remains by the present second birth.

On the six leaves now following of second pregnancies, you see at once by the first drawing always distinct carunculæ myrtiformes, which you then find again on the second drawing, with few alterations.

But this vaginal entrance of a third pregnancy is different. You see how the hymen has passed so luckily through both of the preceding births, that there have been preserved everywhere large shreds separated from one another by small openings only. The third birth has first so completely destroyed these, that only quite a few, and these very small, remains have survived.

In conclusion, you see here also the vaginal entrance of a fourth pregnancy, with few caruncles, but which have all out-lasted even the fourth birth.

You will have convinced yourselves from these drawings, that the difference between the remains of the hymen in females who have not borne children and such as have borne children is striking to the eye, and that consequently the condition of the vaginal entrance is one of the best means of deciding the question whether a female has already borne children or not.[1]

ARTICLE VII.—*Sewer-Gas and Ear Disease: a Record of Struggles with Foul Drains and other Unsanitary Conditions.* By JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond., Fellow of the Faculty of Physicians and Surgeons, Aural Surgeon to the Glasgow Royal Infirmary, and Lecturer on Aural Surgery in the Royal Infirmary School of Medicine.

(*Read before the Glasgow Medico-Chirurgical Society, January* 1878.)

IN the paper that I am about to read to-night, I shall confine myself to a simple narration of facts, to which more than usual interest may be said to attach, on the following grounds, viz., that at the outset these facts arose out of a personal experience—four out of the whole number of cases whose history I intend to relate having occurred in the persons of members of my own family; and also, that these facts seem to show that the admixture of a minute quantity of sewer-gas with the air that we breathe, too minute even to be perceived by the sense of smell, may give rise to a state of general *malaise,* and that this can bring about serious disease in the ears.

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[1] Professor Dr Schroeder kindly lent the original pencil-drawings, and allowed them to be copied, which has been most successfully accomplished by the Messrs Waterston, Sons, and Stewart.

For some time prior to the month of June 1874, I suspected—on uncertain grounds, however—that the air on the top or nursery flat of my own house was impure; that it was lacking in freshness was obvious enough, notwithstanding the daily careful airing of the several rooms. The closets and soil-pipes were examined, and reported to be quite right and in a satisfactory state. The cesspool, situated in the green behind the house, and which is ventilated to the outer air, was, however, in need of cleansing. This was done at once, and orders given to have the operation repeated at regular and short intervals. These orders, I may state here, were *supposed* to be carried out; but of this more anon.

In spite of this and of other measures which had for their object to freshen the air of the several rooms referred to, the health of the children still continued to be unsatisfactory. Curiously enough, four servants who also slept on this flat did not suffer in any way; but it is to be noted that three of these, from early morn till bedtime, were occupied elsewhere in the house, and the only members of the family who did suffer were those who lived almost constantly on the upper flat of the house.

The quality of the air on the second flat could not be impeached, judging by the sense of smell, which, however, would seem to be a less sensitive test in such circumstances than is usually supposed, for at no time on the upper flat of the house was there the smallest indication of an escape of sewer-gas manifesting its presence by an unpleasant smell.

There are three closets in the house: one on the kitchen or basement flat, another in the bath-room, which is situated midway between the second and third floors, and the other on the third floor or nursery flat of the house. The drains are open to the air on the basement, and the soil-pipe is open and continuous with the rain-gutters on the roof of the house. All the closets are freely ventilated, and communicate with the outside air. Indeed, the whole house is more than usually well provided with the necessary arrangements for free and thorough ventilation.

The children, five in all, did not suffer from any distinct malady, for they went out of doors as usual, only it was noticed that they were less spirited in their nursery gambols, and seemed to be "out of condition." In addition to this, they each had a slight but painless congestion of the fauces, nothing more.

For many months this state of matters continued unchanged, but a change did come at last, as I shall presently relate. Meantime, I wish to interpose the relation of a circumstance that occurred on the day before that change took place, and although it has no direct bearing upon the subject of my communication, it is, nevertheless, worthy of being introduced at this stage of my narrative, if only to show, that I had the opportunity of proving the courage of an opinion that I had given expression to, just a few hours before my own personal troubles began.

On the 28th of June 1874, I had seen a case of scarlatinal ear disease in consultation with one of my medical friends. It was one which had been left "to take its own course," as the saying goes. On the way home, I took occasion to tell my friend that the case which he had just seen, with all its unpleasant results, not to speak of probable and even dangerous complications, could have been cut short, and these consequences nearly, if not altogether averted, by the timeous application of the principles of conservative aural surgery. On being asked by him what I should have done in such a case, I replied, that at the outset of the stage of congestion of the tympanic tissues, a free opening through the membrana tympani was all that was required to produce such results as I had indicated, and to prevent such consequences as we had just witnessed in the case over which we had consulted. My friend, perhaps regarding this proposed treatment of mine as too heroic, if not an unjustifiable proceeding altogether, demanded to know if I would act as counselled were the patient one of my own children. To this I need hardly say, that I had but one reply, that I would so act.

That night all my family retired to rest in apparently their usual state of health, no complaint of any kind having been made by any of its members.

At 4 A.M., on the 29th June,—the children had gone to bed at 7 P.M. on the 28th,—I was awoke by the nurse in charge of the children, who informed me that my eldest boy, aged 8 years, was very ill with a severe pain in his head. On going up stairs, I found that he had been ill for about two hours with pain, which had its site in his ears. On examination, I saw that both organs were acutely inflamed, and congested in their entire extent. At 10 A.M., as there was no remission of the symptoms, and in order to prevent all the evil consequences that must inevitably follow were the usual *laissez faire* method of treating such cases adopted in this one, I freely incised each membrana tympani, and thereby gave exit to much clear serous fluid, with marked and almost instantaneous relief to all the previous suffering. This fluid, always serous-like in appearance, continued to drain away very freely for several days, to the extent of about eight fluid ounces in all. Indeed, so severe was this drain upon the patient, as to make him apparently exsanguine. Although the operation had had the effect of relieving the severe pain, and at the same time had placed a limit to the disease in the ears, he ran some risk from an acute attack of congestion of the meninges. At the end of three weeks, and without further special treatment than seemed necessary to keep the tympana free from accumulating fluid, the boy's recovery was complete in every respect.

Since then till now he has remained free from any ear affection, and he hears perfectly. Moreover, on examination of his ears, not a trace of the former severe disease is to be seen, nor is there a vestige of anything to show the nature of the "heroic" measures by which it was combated, discoverable.

I have completed the whole history of the boy's case, but ere he had been many hours ill, and in fact on the next day after he was attacked, my eldest girl, aged ten years, was seized in a similar way to her brother, and in both ears also. Though not so severely affected as her brother had been, she required and obtained the same treatment as he did, and with like results, the escape of large quantities of pure, serous-like fluid, cessation of pain, and complete recovery. Since then, also, she has continued to hear quite well.

On the same day on which she was attacked, the youngest child of all, aged eight months, seemed to be in a feverish state. He was evidently suffering from pain, the exact site of which was unknown; but when my attention was particularly called to him, I noticed that he dreaded any motion of the head. This fact, and the case of the other two children just described, led me to suspect the ear as the seat of the pain, and an examination showed that this suspicion was well founded. Treatment of a similar kind to that which had given relief to his brother and sister, soon put him into a safe state, and in a few days thereafter he was quite well, and has, like the others, continued so ever since.

For the next few days after the last of these occurrences, all seemed to be going on well. Quite suddenly, however, and by accident, I noticed that my youngest girl, aged three years, was nearly quite deaf,—so deaf, indeed, that it became necessary to touch her person if one wanted to communicate with her. On examining into her case, I found that she was suffering from a painless form of catarrh of the tympanum, equally serious in its nature, though less painful, than the cases of the other children. In her case prolonged treatment became necessary, and only after repeated incisions of the membranes did I succeed in removing from the drum cavities large masses of tough jelly-like mucus, which proved to be insoluble in either strong acid or alkaline solutions.[1] This little girl is now quite well, and her hearing quite normal.

Such a catalogue of miseries in one's own family, and occurring all within the brief space of about forty-eight hours, caused me to set about discovering, if possible, the cause of these untoward events. As a first step in that direction, I determined to have the drains of the house more thoroughly overhauled, and, to aid me in this examination of the sanitary state of the house, I asked, and obtained readily, the valuable assistance of Dr Fergus. The result of that examination was to show, that there was a distinct escape of sewer-gas into the house from two of the water-closets, viz., from the one on the drawing-room flat, and also from the closet on the nursery flat already referred to, and that this escape was greatest at the moment when the closets were being emptied. An examination into the state of the drains, and of the outside cesspool, showed that the cleansing process that I had ordered to be done regularly some months previously had not been done at all; indeed, there was good grounds for suspecting that previous orders of a similar nature had not been obeyed, and that, in fact, from the time I had entered into occupation of the house till the date of this investigation, a period of over two years, the cesspool had never been emptied. The result of this neglect was apparent in the choked cesspool and basement drains,—a state of matters which was at once put to rights, and has since then been regularly "looked to."

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[1] A specimen of this mucus was exhibited at the meeting.

From that time till now we have had no illness of any kind in the family, nor have we had the smallest trouble with our drains.

Some little time after these occurrences in my own house, I was consulted by a young lady, who complained of occasional dulness of hearing, apparently causeless in its origin. The only objective tissue change noticeable in her case was a slight congestion of the mucous membrane of the naso-pharynx. She was prescribed for, and sent from home for change of air; in a short time she became quite well.

A few days after the date of her visit, her mother called to consult me. I found her condition to be much the same as that of her daughter's. There was a general "out of sort"-ness—if I may so describe the state of langour in which both mother and daughter were when they came to me—dulness of hearing and congested naso-pharyngeal membrane. She was treated similarly to the young lady, and like her became soon well. Just as the elder lady was leaving my room, she mentioned, quite incidentally, that the governess of the family had also suffered in a similar way in regard to her hearing.

Although I had not seen this lady, the singularity of three individuals in the same house becoming similarly and peculiarly affected roused my suspicions, and caused me to inquire into the sanitary state of the house which they occupied. In reply, the lady declared that everything in the house seemed to be perfect, "with the exception," she said, "of a smell," which was perceptible in a room to which all three ladies had common and frequent access. I thereupon told the lady what my suspicions were as to the causation of their complaints, and requested that the origin of the "smell" should be inquired into.

A survey of the pipes and drains of the house was accordingly made, and a defect was discovered in a soil-pipe which ran through the room in which the unpleasant odour had been perceived. This was repaired, and with this the odour disappeared. Since then the health of the family has continued good.

In April 1874, I was consulted by a lady who, for some time, had suffered from "biliousness." She had also a considerable degree of deafness and a great languidness both of body and of mind. The only objective phenomena to be seen were a slight congestion of the naso-pharynx, and some catarrhal thickening of both drumheads. The lady herself assigned as the cause of her deafness that she had taken harm from a large dose of meconate of morphia, which had been prescribed for her by her family physician, in order to procure sleep, of which she had had little for some time previously. I was not, however, of her opinion as to the cause of her troubles, simply regarding the deafness as the outcome of the congestion of the naso-pharynx, and that this was itself due to malaria of some kind or other. Having had this opinion, the lady returned home; and, as I had prescribed for her change of air, and nothing else, she followed the advice that I had given, and got well.

But on returning to her home after a lapse of some weeks, quite better in her general health, and almost cured of her defective hearing, she was suddenly prostrated by a low form of fever. The family physician, a gentleman of acuteness and decision, at once ordered an inspection of the drains and soil-pipes to be made, with the result of discovering that the basement of the dwelling was thoroughly soaked with the contents of a sewer into which several houses drained, and which from appearances must have been defective for many months previously. The lady was at once removed from her home, and for many months she was in an almost hopeless state. When I last heard of her, she was in fair health, and had completely recovered her hearing.

For several years I had had under my care a young lady who had suffered on several occasions in a similar way to that of my eldest son, whose case has been described already at the outset of this paper. On three different occasions I was compelled to adopt the same measures to conserve the organs of hearing in this young lady's case, just as I had done in the case of my own boy.

Notwithstanding every care on the part of the patient, there ever remained a certain amount of deafness; but this was accounted for by the fact that she seldom was free from a slight congestion of the naso-pharyngeal mucous membrane.

In the course of my care of the case, I noticed two facts of some importance; these were that, on a prolonged visit to London, she became quite well, and remained so till her return home, when, as usual, her ear-affection began to trouble her; and that, in the summer-time, when living in the country, she was invariably free from all annoyance in that respect.

As I had now begun to despair of ever keeping the patient well, and further, as I had not profited as yet by my own personal experience, I failed to read aright the lesson that these facts were capable of teaching; in good time, however, they helped me to clear up the apparent mystery that seemed to envelop the case, as I shall by-and-by point out.

On the young lady's return from the country, in the autumn of 1874,—a few months after the occurrence of my own domestic troubles,—she was found to be, as indeed she was always after such circumstances, quite well. Not long after her return, however, she again came under my care, with all her old symptoms well marked. On this occasion I was sent for to see her at home, late one night, and found her enduring much suffering. On examination, I saw at once that the old tympanic disease had returned. As had been my custom, I at once freely incised both of the membrana tympani, from which she had immediate relief. As usual, no cause could be assigned for the present attack except the ordinary—"had caught cold."

As I had now my own experience to guide me, I suggested to the patient's mother that the condition of the drains of the house should be ascertained. In reply to my suggestion, the lady assured me that it was quite unnecessary to do so, as there was no smell or other unpleasantness indicative of defect in the soil-pipes or drains.

This attack of acute tympanitis passed off, as did the former ones, leaving, however, a slight defect of the hearing behind.

In a few months after this she was attacked again in the same way, and required, in some respects, similar treatment to that which she had received in all her previous illnesses.

On this occasion I insisted, with a firmness begotten of my personal experience, that the drains of the house should be examined and thoroughly overhauled. This was done, and the result of the examination was such as to show that the house was in a most filthy, and therefore unhealthy, state. The drains in the basement were as full of holes as a rabbit-warren, and underneath the stone flags of the kitchen, in consequence of these defects in the drains, there was found a great collection of filth of all kinds in a state of decay; so bad, indeed, was the state of the house, that it became necessary for the family to leave it till the necessary repairs were effected. On this occasion the family went to reside at Buxton, where, and in London, they passed the time till the spring of 1875—the young daughter meanwhile keeping quite well in her general health and in her hearing also.

At the end of the spring-time the family then returned to their Glasgow home, now in perfect sanitary order, and remained in it for a few weeks before going to their usual summer-retreat in the

Highlands. No harm to my patient came of this stay in their Glasgow house, and, as usual, on her return from the country she was quite well. In the autumn, on their return to town, the family only occupied the Glasgow house for a few weeks ere going to London for the season, and where they have since lived; no harm came even of this short residence in the house to the young lady.

I have seen my patient several times since she and her family took up permanent residence in England. She is quite free from all traces of her former deafness, and has enjoyed absolute freedom from the attacks to which, while in Glasgow, she had been so subject.

Taken in connexion with what I have related as to this young person's case, and the state in which the house was subsequently found to be, the following history of the other members of the family may not be without interest. The gentleman of the house was never well in health when at home, but always in fair and even robust health when living elsewhere. He was a generous but temperate living man, suffered while in Glasgow much from boils and carbuncles, and an anomalous kind of illness, which the able family medical man regarded as a form of suppressed gout. Three children died in the house in infancy, and in succession, from throat affections of short duration. There was no marked hereditary tendencies of any kind in either of the parents or children, and all seemed to enjoy fair health when residing elsewhere than in their Glasgow home.

These facts as to sewer-gas and ear disease may be left to teach their own lesson; and I now, in continuation of my subject, desire to call attention to some other unsanitary conditions in relation to ear disease; as in the first section of my paper, so in this one, I shall confine myself to a relation of facts.

Forty years ago, a gentleman, now aged about eighty years, went to live in an old cottage, situated in a valley and on the banks of a small river, then a clear and purling stream, now a gross and foul-smelling sewer. When the gentleman referred to first went to live in this cottage, which he still occupies, he heard quite well; but in no very long time thereafter he began to get gradually deaf and deafer, till now, to-day, he is almost, but not quite totally incapable of hearing the voice of any one who addresses him. He has living with him now two daughters, who were born in this old house. The eldest of them began to get deafish at the age of seven years, and is now very deaf, and getting deafer gradually. She has no pain and no trouble of any kind, except a chronic congestion and hypertrophy of the naso-pharyngeal mucous membrane, and frequent attacks of skin eruptions due to the presence of fungi. I ask you to note this last fact particularly, because of something that I shall subsequently state as to the condition of their dwelling-house. The younger daughter also began about the age of eight years to become dullish in the hearing like her sister, and, like her, she is gradually getting deafer. No treatment seems to avail in either of these girls' cases. The same abnormality of the throat and nose tissues exists in both cases, and, of course, the usual tympanitic tissue-changes are to be seen also; but, with these exceptions, they are seemingly in good health.

Now for the state of their dwelling:—Its walls are damp, drawing this dampness from the soil on which they rest. The house being built on a slope, the basement flat in front is raised a few feet from the ground; it is therefore drier than the back part of the house, which is embedded for several feet in the moist soil.

A few years ago, in consequence of this dampness becoming no longer bearable, the flooring of the basement flat of the house was removed, and, on doing so, a most remarkable growth of fungi was discovered, whose luxuriance, judging by the description of it that I had from one of my patients, could only be rivalled by that of the undergrowth of a tropical forest.

In this case, to do battle with such forces as manifested themselves here was hopeless, and in the face of the persistent refusal of the gentleman to leave this old home, I have given up all treatment of his daughters' cases. I have no doubt, that were he to yield so far as to send his two children from home from time to time, that the progressive characters of their respective affections might be held in check, but even this he refuses to do. That such a hope as is here expressed is not only possible but attainable, the following history of the cases of three young ladies goes far to prove:—

For a long time I had been a good deal puzzled by a recurring deafness in the persons of three, otherwise healthy, young ladies, aged respectively seventeen, twenty, and twenty-three years. There was no assignable cause for this defect in their hearing, and except a slight degree of languor of which they each complained, they seemed to be perfect pictures of health. One after the other of these young ladies came under my care, got better and got worse, and better again, in consequence of the treatment to which I subjected them, but there was no possibility, seemingly, of keeping them from relapsing. Such a state of matters was much too unpleasant for either of the parties to last long. What was the cause? To this no definite reply could be given.

I noticed, however, that one of the patients became quite well on visiting a relative who resided in a fine country district in England; and while with her relative this young lady remained quite free from her ear affection. But this mere residence in another part of the country did not alone explain the manner in which this change had come, nor did it even seem to me to be able to effect so great an improvement as really took place in the young lady's hearing, because while in Scotland in her own home she had everything that could possibly be given to her by her friends in her temporary place of abode. Besides, at her own home, she inhabited a presumably healthy house, situated in a salubrious and high-lying district of Scotland. The difficulty that had all along attended the cases was, therefore, not removed by this circumstance, nor was it even lessened by the fact, that when the young lady returned from her visit to England, and once more occupied her old quarters, all her ear troubles began gradually to re-appear; in truth, after being at home for a few weeks, she became just as deaf as ever.

In order to be brief, I cannot enter into all the details of the process by which we came to know that the house, which was a fine old country mansion, had been built, as many of these houses were, without the smallest regard to the drainage of the site upon which it rested; so that the walls for several feet all round were constantly soaked with the damp, drawn from the undrained soil upon which they were built. In this case, as the family could not remove from this house without removing altogether from the district, and as this latter step was not to be thought of, much less undertaken, the plan was hit upon of causing the sisters, each in turn, to spend four months of the year away from home at the healthier residences of their friends. The most gratifying success has hitherto attended this arrangement, for they are now nearly quite well, and almost perfect in regard to their hearing.

These facts, and the histories of the cases that I have related, are typical of numerous similar ones that have come under my own notice, most of them indeed drawn from the inhabitants of large towns and cities, but not a few from among the dwellers in fine old mansions in healthy country districts.

ARTICLE VIII.—*On Retention of Urine in the Female.* By J. HALLIDAY CROOM, M.B., M.R.C.P.E., Physician Royal Maternity Hospital, Lecturer on Midwifery, School of Medicine, Edin.

(*Read before the Obstetrical Society of Edinburgh, 9th January* 1878.)

ALTHOUGH vesical troubles of various kinds are very common in the female, yet a complete retention of urine requiring the use of the catheter is, apart from labour, not of very frequent occurrence. Retention is met with oftener in the female than the male. Its causation in the sexes accounts for this. In the male the causes leading to the condition are comparatively limited: in the female there is a much wider range. In the male retention of urine points to some morbid condition in the urethra or bladder: in the female it indicates usually some disease, injury, or displacement of neighbouring organs; while stricture of the membranous or spongy portion of the urethra, enlargement of the prostate, presence of a calculus, or some disease of the nervous system, form by far the most prominent group of causes obstructing the flow of urine in the male. It is a great clinical fact, that retention is produced in the female by causes altogether external to the bladder. Although, for the relief of the urgent symptoms, passing a catheter is sufficient, yet it is important clinically to remember that retention is but a symptom, and points to some condition within the pelvis, for the diagnosis of which a vaginal examination is necessary. In inquiring into the causes leading to retention of urine in the female, it is convenient to look at two cases illustrating complete retention from a well-recognised cause.

CASE 1.—*Retroversion of Gravid Uterus. Retention of Urine.*

Mrs B., æt. 35, the mother of five children, while alighting from an omnibus, slipped, and fell heavily on the ground. Beyond the bruise she felt no great discomfort at the time. On reaching home, a distance of five minutes' walk, she began to complain of aching in the back and loins, and general pelvic distress. Before going to bed, six hours after the accident, she attempted to pass water, but succeeded in voiding only a few drops. During the night she suffered much from tenesmus, and repeated futile attempts at micturition. Next morning she was considerably worse,—pain in belly, back, and thighs, pressure, tenesmus, sickness, thirst, and vomiting. In the evening of the same day she was seen by one of my dispensary pupils, who, thinking she had inflammation of the bowels, ordered her turpentine stupes and a large opiate. At 10 A.M. the following day I saw her, and found her pulse high, skin hot and dry, lower portion of abdomen tense, tender, and dull on percussion from pubes to umbilicus. She had not passed any urine for nearly fifty hours. She said she believed herself to be three months pregnant. On examination per vaginam, I found the enlarged fundus uteri occupying the hollow of the sacrum, and the cervix uteri, turned upwards and forwards, could be reached with difficulty. It was lying behind the pubes, pressing firmly against the urethra. A gum-elastic catheter was passed, not without some little trouble, owing to the irritable condition of the patient, and the orifice of the urethra being dragged considerably backwards and upwards by the ascending cervix. Two quarts of highly coloured, very ammoniacal, urine were drawn off. By very gentle pressure on the fundus with two fingers per vaginam, the dislocation was easily reduced; indeed, the fundus slipped upwards and the cervix downwards into its natural position in the vagina almost spontaneously. The urine was again drawn off in the evening. Next day I introduced a Hodge pessary, telling the patient to retain it for a month. Patient had no further trouble, and was delivered at term.

The case was obviously one of retroversion of the gravid uterus, and accompanying retention of urine resulting suddenly from a fall.

Case 2.—*Retroversion of Gravid Uterus. Retention of Urine. Abortion.*

Margaret R., æt. 35, consulted me in August of last year about a constant pain in her back and occasional difficulty in passing her water. In other respects she was in good health. Her menstruation, which had been regular previously, had been suppressed for a month. She had been delivered of a child ten years before at full time. On examination per vaginam I found the vagina capacious, the rectum packed with hardened fæces, and the cervix, which was that of a multiparous woman, directed forwards. I felt the fundus uteri directed backwards and enlarged. Owing to the loaded condition of the rectum the examination was somewhat unsatisfactory. I therefore asked the patient to return the following day, after having taken a purgative dose of medicine. She did not, however, return to see me, and I heard nothing of her until I was asked to see her in September, a month later. I found her in bed, moaning heavily, with a high pulse, complaining of bearing down, tenesmus, and much pain in the back. She had been unable to pass water for two days. She said she had suffered from slight attacks of retention since last I saw her, but these had always passed off until now, when her suffering had become so great that she was obliged to send for me. On examination I found a distinct tumour, reaching from pubes to umbilicus, which, from its tenseness, dulness on percussion, tenderness, and fluctuation, was evidently the bladder. The vagina was blocked up by a round, regular, doughy tumour, in front of which, behind the pubes, I could barely feel the edge of the os uteri. From the position of the os, and the character of the vaginal tumour, as well as the history of the case, the diagnosis arrived at was gravid retroversion, and consequent retention of urine. The patient admitted the possibility of pregnancy. A large quantity of dark-coloured urine was drawn off with a gum-elastic male catheter. On making a second examination, the os could be more easily reached. I tried at the same time to reduce the dislocation, but failed. In the evening of the same day, Dr Andrew was kind enough to see the patient with me, and while he kept her fully under the influence of chloroform, I succeeded in reposition in the ordinary way. A Hodge pessary was introduced next morning. A fortnight later the patient aborted.

The two cases just recorded are, I believe, typical examples of the two forms of gravid retroversion. They both occurred at the end of the first trimestre of pregnancy, the usual time for the development of the characteristic symptoms. The subjects, as is generally the case, were both multiparous women. In both, the urgent symptom was retention of urine. They differed, however, very notably in the manner in which the displacement was produced, for, while the first was sudden and accidental in its onset, the second was slow and gradual. In the first, the sudden fall from the omnibus was evidently the determining cause of the dislocation. The patient, on attempting to alight while the vehicle was still in motion, fell heavily on the ground, and in the roomy pelvis of a multiparous woman, the result of the shock might be such as to force the fundus uteri, enlarged and overweighted by an ovum, under the promontory into the hollow of the sacrum. The cervix in consequence would rise upwards and forwards, and press on the urethra or neck of the bladder. In the second case the retroversion was gradual and progressive. The fundus, having probably a backward inclination to begin with, sank deeper into the pelvis as the advancing pregnancy increased its weight and size, and with the gradual depression of the fundus there was, of course, a corresponding elevation of the cervix. The pathology of pregnancy presents few more interesting subjects than retroversion of the gravid uterus, and the cases just recorded suggest many interesting points worthy of consideration; but the present paper is concerned with but one symptom, and that unquestionably the most prominent, viz., retention of urine. What relation, then, does retroversion of the gravid uterus bear to the retention of urine? Is it cause or effect? That the one forms an important factor in the production of the other, there can be no doubt. Upon this point there has been, and still is, considerable difference of opinion among obstetricians. For while Denman,[1] Merriman,[2] Paul Dubois,[3] Danyan,[4] Cazeaux,[5] and more recently Depaul,[6] regard retention as a frequent cause of retroversion, other authors, — Hunter,[7] Moreau,[8] Burns,[9] Lohmier,[10] Spiegelberg,[11] Leishman,[12] and Playfair[13]—attribute the retention to the retroversion. Those who hold the first of these theories suggest as an explanation of the mechanism of the retention, that the bladder, becoming distended, forms a point projecting into the interior of the pelvis, which gradually, as it enlarges, presses the uterus backwards. The degree of retroversion will be, therefore, in direct proportion to the distention of the bladder. On the other hand, those observers who find in the retroversion the cause of the retention explain its occurrence in one of two ways, either that the uterus became suddenly retroverted as a result of a fall or injury,—the retroversion of Hunter[14] and Denman,[15]—or else adhere to the explanation of Tyler Smith.[16]

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[1] *Introduction to Midwifery*, 1805, page 103.
[2] *A Dissertation on Retroversion of the Womb*, 1810.
[3] Depaul, *Leçons de clinique obstetricale.* [4] *Ibid.*
[5] *Theoretical and Practical Midwifery*, Amer. edit., p. 533.
[6] Depaul, *Leçons de clinique obstetricale.*
[7] *Medical Observations and Enquiries*, vol. v. p. 389, 1776.
[8] Depaul, *op. cit.* [9] *Principles of Midwifery*, p. 282, 1837.
[10] Schroeder's *Manual of Midwifery*, page 122.
[11] *Lehrbuch der Geburtshulfe*, page 283.
[12] *System of Midwifery*, page 266.
[13] *Science and Practice of Midwifery*, page 235.
[14] *Op. cit.* [15] *Op. cit.* [16] *Manual of Obstetrics*, 1858, page 127.

To Dr Tyler Smith belongs the credit of having first pointed out that retroversion of the gravid uterus is simply pregnancy taking place in a previously displaced organ. In either case, the retention is caused by the direct pressure of the cervix on the urethra, increased by the tenesmus and downward pressure of the intestines. If the cases just recorded prove anything, they prove that the retroverted uterus was the direct cause of the retention. In the first case, the patient had no difficulty in passing water previous to the fall which caused the retroversion. It was only after the dislocation had lasted some hours that symptoms of retention set in. It is matter for conjecture whether the bladder was full at the time of the fall or not. If it were, it would no doubt increase the backward inclination of the uterus in early pregnancy, and a dislocation from a fall more easy. It is, however, a fact that until the occurrence of the fall, which either aggravated or caused the retroversion, there were neither difficulty in passing nor retention of urine. In the production of this sudden force, retroversion plays, if any, a very secondary rôle. In regard to the gradual form of retroversion, of which Case 2 is a good example, the uterus, when I examined it in the early weeks of pregnancy, was distinctly retroverted. The strong presumption is, that the uterus was retroverted before pregnancy, and that the enlarging ovum and uterus, in the early weeks of pregnancy, caused difficulty in micturition. As the uterus enlarged towards the end of the third month, this difficulty became aggravated into complete retention. From the frequency with which retroversion of the unimpregnated uterus is met with in practice, as a reference to Nonat's[1] table amply shows, it might be urged that gravid retroversion would be much more common. It is a fact, however, that this displacement acts as a barrier to impregnation, and sterility is therefore common among women who thus suffer. It thus appears probable that when by accident conception does take place in a retroverted uterus, the dislocation is aggravated, and only recognised when the increasing bulk of the imprisoned organ causes retention of urine. No doubt the fundus uteri enjoys a considerable range of motion in the direction from pubes to sacrum, influenced to a certain extent by the alternate filling and emptying of the bladder. It would seem natural that so long as the bladder kept distending antero-posteriorly, there would, of course, be a corresponding backward displacement of the uterus. It must, however, be remembered that when the bladder distends beyond a certain limit, its vertical diameter becomes increased beyond and at the expense of the transverse. The result is that the utero-vesical folds are shortened and drawn up, and the anterior wall of the uterus is closely applied to the posterior wall of the bladder. In Scanzoni's experiments on the dead subject, quoted in Leishman's *System of Midwifery*, p. 267, it was found, if the round ligaments and utero-vesical duplicature were cut, and the bladder filled, it was easy to induce an amount of retroversion corresponding to the quantity of fluid in the bladder. When the ligaments and folds just alluded to were left untouched and the bladder distended, they were greatly put on the stretch, and consequently the attachment of uterus to bladder was much more firm than when the organ was empty.[1] Again, when distension of the uterus takes place after labour, the position of the uterus is considerably interfered with. As the bladder rises into the abdomen, it carries with it the uterus, so that the fundus uteri can be felt above the umbilicus. When the catheter is introduced and the urine drawn off, the uterus descends to its normal post-partum position in the pelvis. Indeed, it is the rule that when the uterus is found high up, the bladder should be examined. If the uterus be retroverted before conception, then the simple increasing size of the organ is sufficient to cause the retention of urine. If, however, a uterus with only a slight inclination backward becomes completely retroverted during pregnancy, it is more likely to be brought about when the bladder is empty, because in that case the ligaments are relaxed and the downward pressure of the intestine, especially when loaded, acts with greater advantage on the enlarged uterus than when the bladder is full and the ligaments tight.

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[1] *Mal. de l'uterus*, p. 416.

Acting much in the same way as a gravid retroversion, that is, by displacing the cervix against the urethra, and so mechanically interrupting the flow of urine, retention may be the result of retroversion of the uterus from a fibroid tumour.

Mrs R. was, late on Sunday, January 1877, complaining of great pain in lower part of abdomen, inability to pass water, and strong tenesmus. During the day and previous night she had made many ineffectual attempts to pass water, but failed. Except a few drops, no urine had passed since the previous Friday night (forty-eight hours). On examining the abdomen, I found a tense, smooth, dull tumour, extending from the true pelvis slightly beyond the umbilicus. *Per vaginam.*—There was a hard, round, immovable mass filling up the vagina; beyond it, anteriorly, could be felt the posterior lip of the cervix uteri, jammed firmly against the urethra. The introduction of the catheter relieved the patient of a large quantity of ammoniacal urine, and at the same time permitted a more careful examination of the condition of matters within the vagina. It is unnecessary for my present object to do more than mention, from her profuse menstruation sterility, from the position, size, and consistence of the tumour, as well as the enlargement of the uterine cavity, there was little room for doubt as to the nature of the case, viz., retroversion of uterus from a fibroid tumour in the posterior wall, and consequent retention of urine. The patient said that for some months past, more especially at her menstrual periods, she had suffered from some

[1] Burns records experiments on the dead subject with same result.

difficulty in passing water, but never until now had there been complete retention. Some days afterwards, while the patient was in the genu-pectoral position, I pushed the tumour well up to brim of pelvis, and retained it pretty well in position by means of a Hodge. From that time till now I have steadily pressed ergotine subcutaneously, and removed the Hodge at intervals. There has been no return of retention and the menorrhagia is considerably lessened. Examples of retention from this cause are, as a result of the mechanical pressure of a fibroid tumour, not uncommon. Fibroid tumours frequently cause retroversion of the uterus. The causation of the retention is exactly similar as in gravid retroversion. The fibroid tumour in the posterior wall of the uterus had gradually increased the weight of the fundus, and given it a backward inclination, and with the gradually increasing bulk of the fibroid the retroversion had become more and more pronounced, until in the course of months or years the uterus had reached a size corresponding to a three months' pregnancy. As the fundus uteri sank deeper into the pelvis, the cervix was pushed against the urethra, causing at first some difficulty in micturition. As the bladder distended it drew the cervix upward until it was beyond the reach of the examining finger. Then, partly from the increased pressure on, and partly from the greater stretching of, the urethra, the retention was complete. It is worthy of remark, that the difficulty in passing water during the previous months, as well as the complete retention, occurred at menstrual periods, when the uterus and fibroid would be swollen from local determination of blood and from the increased weight, the fundus would be deeper in the pelvis, and the cervix jammed more firmly against the urethra.

The relief afforded by the catheter in a case such as this is only temporary; for the permanent cure of the retention it becomes necessary to attempt a more convenient adjustment of the obstructing mass. If there are no adhesions, and the tumour be neither too large nor too firmly jammed in the pelvis, it can often enough be pressed upwards to the brim by a manœuvre similar to that employed for reducing a similarly dislocated gravid uterus. If retained in this position by some modification of the Hodge pessary the fibroid will increase upwards in the direction of least resistance, and the urethra and neck of bladder be relieved from pressure. Sometimes, however, such manipulation is impracticable, as in the following case:—J. H., æt. 38, single, has been for months under my care at the Western Dispensary. She requires from time to time to have the catheter to relieve her of retention of urine caused by the pressure of a large fibroid mass firmly fixed in the pelvis. The true pelvis, as well as the abdomen, as far up as three inches beyond the umbilicus, and to within ½ an inch of the crista ilii on either side, contains a large, solid, irregular mass of fibroids, one of which has sunk deep down into the pelvis, until it almost rests on the perineum. It is just possible to reach the posterior lip of the cervix. The girl suffered from profuse menorrhagia. In such a case it is impossible to remedy the position of the pelvic mass, and the catheter affords the only relief. The patient has had ergotine administered hypodermically for some months, and of late her haemorrhage has been markedly diminished, and her attacks of retention less frequent.

Retroversion of the uterus from a fibroid tumour is generally slow in its development, but it may take place suddenly, as in the case mentioned by Grailly Hewitt,[1] when the uterus with its contained fibroid became suddenly retroverted from a fall, and retention of urine to an enormous extent was the result,—the mechanism both of the retroversion and retention being much the same as in the first case I have recorded of gravid retroversion.

(*To be continued.*)

Part Second.

REVIEWS.

A Handy-Book of Forensic Medicine and Toxicology. By W. B. WOODMAN and CHARLES M. TIDY. Pp. 1205. London: J. & A. Churchill: 1877.

Lectures on Medical Jurisprudence. By Professor OGSTON, Aberdeen. Edited by FRANCIS OGSTON, Jun., M.D., Lecturer on Practical Toxicology. Pp. 663. London: J.&A. Churchill: 1878.

A WORK on Medical Jurisprudence is valuable to the profession either as containing the record of the mature experience of the author, or the results of extensive reading. In other departments of medical science, it is comparatively easy to acquire a certain amount of practical experience. A hospital or dispensary physician or surgeon gifted with ordinary powers of observation cannot fail in a short time to collect a considerable amount of facts bearing upon practice; but the field of observation of the medical jurist is necessarily limited. Cases which interest him are few and far between, unless he devotes himself specially to this branch of his profession; and it is well known that even in large centres of population, medical jurisprudence alone does not pay. The pecuniary rewards it brings are not large, and the contests of medical opinion in the witness-box are not productive of goodwill.

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[1] *Diseases of Women*, 3d edition, p. 135.

Few escape unscathed from the ordeal, and hence it is that the subject of the two works which we have placed at the head of this notice is not a favourite with the profession, and it too often happens that the general practitioner and the pure physician and surgeon shun all cases that promise to bring them into the forensic arena. At the same time, there are few positions more embarrassing for a practitioner of medicine than to be summoned to give evidence in a case involving a knowledge of the principles of medical jurisprudence, and there can be no doubt that much of that distrust which attaches to our profession has sprung from the appearance of its members when under an examination in a court of law. The embarrassment of the witness, not to speak of his contradictory evidence, tells on the general public, who jump to the conclusion that similar uncertainty must be the rule and not the exception in the sick chamber. The legal profession, too, has done its best to ring the changes on the general distrust of medical evidence in the witness-box; and south of the Tweed, where greater license is permitted by the bench and assumed by the bar, medical witnesses are looked on as fair game for forensic display. It must be confessed, however, that much of the disfavour with which we are regarded as scientific witnesses depends on the hesitation and ignorance displayed by the members of our profession. No amount of mere reading will make a good medical witness. And we repeat mere truisms when we assert that he must be gifted with intelligence, and be determined to speak with the strictest accuracy, and at the same time with the greatest impartiality. We have long been of opinion that the medical student has been badly treated in not having medical jurisprudence more practically brought under his notice, that he has not been trained in the taking of notes and of writing medico-legal reports, and that no opportunity has been afforded him of observing the practice of our criminal courts. The wonder is that, without some such tuition, the medical profession as a whole behave so creditably in the witness-box. The Medical Council, who, some years ago, by the queries they issued to teachers of medical jurisprudence, showed an appreciation of the imperfect manner in which this important subject is taught in our schools, have apparently, for some unaccountable reason, allowed the matter to drop. We beg to recommend it again to their notice, assuring them that it is high time something was being done, and that few services more valuable to the general public, and which would be more favourably estimated by them and the legal profession, could be rendered than insisting that the student shall have means afforded him of becoming practically acquainted with medical jurisprudence equal to those he at present possesses as regards medicine, surgery, and the other departments of medical study. One special feature of Dr Ogston's work is the Appendix, in which he gives a series of forms of medico-legal reports, which must prove of great assistance in drawing up such documents; and we happen to know, that in his course students have ample opportunity of becoming practically acquainted with medico-legal forms, and with the chemical analysis of the more ordinary poisons.

In the forty-five lectures comprising his volume, Dr Ogston goes over the entire range of his subject, not encumbering himself with details of reported cases, but restricting himself mainly to the records of his own great experience. Indeed, the charm of the book consists, not so much in the style, which, we suppose, from the author's intimate acquaintance with German literature occasionally partakes of the involved character of the prose of some of the most eminent medical jurists of that nation, but in the numerous cases which so aptly illustrate every topic. The work of Drs Woodman and Tidy, on the other hand, is not what it professes by its title to be—a mere hand-book; it is in truth an encyclopædia, and its construction must have involved an enormous amount of labour. We regret, indeed, to find that Dr Woodman apparently sunk under his exertions, and that he has added another name to that band of young physicians of great promise who have succumbed to the wear-and-tear of London practice when associated with great mental work. Neither of our authors are conspicuous as medical jurists, but Dr Tidy is known as a skilled analyst. The volume is dedicated to the memory of Dr Letheby, and the authors acknowledge their obligations to his advice and teaching. It may be looked upon, therefore, as representative of the London Hospital Medical School, of which Dr Letheby was so long an ornament; and we can congratulate that school on the production of such a class-book. It is not unworthy to be compared with the standard classic which is so intimately associated with Guy's Hospital. Although Dr Letheby latterly officiated more as a sanitary chemist, still his experience in the various law courts must have been great, and the present volume has the advantage of his notes, which supply in some measure that which is essential to a work which claims to be, not merely a compilation, but an authority on the subject. It would be easy to cavil at the dicta of Dr Letheby, whose evidence on criminal trials has given rise to much discussion; we prefer rather to remember his acuteness, his power of work, and his urbanity, and to recognise in this volume the record of some of his best work.

The classification adopted in these two treatises is widely different. In the *Handy-Book* it is barely attempted. After three preliminary chapters devoted to medical evidence, post-mortem examinations, and evidence of death, toxicology is at once begun, and occupies the next fifteen chapters. Four are devoted to miscellaneous topics, such as the use of the microscope, life-insurance, and identity; and then we have in succession questions discussed connected with pregnancy, rape, infanticide, insanity, various forms of violent death; and lastly, wounds. Dr Ogston, on the other hand, follows a carefully-constructed classification, including questions connected with age, sex, identity, the generative functions, insanity, disease, actual and assumed; and lastly, death; and he informs us that "this classification had been employed by me some years previous to the announcement of the scheme followed in the teaching of medical jurisprudence by the School of Medicine of Paris, with which it will be found closely to correspond." We regard it to be impossible strictly to classify such topics, and every classification as yet proposed can be shown to be faulty. But each teacher manages to form one for himself, which, like the one adopted by Dr Ogston, becomes convenient for the special purposes of his course. Dr Ogston has two excellent preliminary lectures on medical evidence, full of sound advice to the medical practitioner, and containing information as to his conduct in a court of law, criminal procedure in various countries, and the fees exigible for medical witnesses. Two guineas are mentioned as the fee for a post-mortem examination in England. It should have been mentioned that only one guinea is allowed in Scotland for such an examination and the report, unless the distance travelled by the medical man is greater than two miles. The statement is made (p. 11), that "a magistrate in England cannot compel a medical practitioner to make an analysis, or undertake any extraordinary investigation demanding time and skill. If an analysis be made without any previous stipulation, and the prisoner be not committed for trial, the medical practitioner will probably receive no fee for the analysis." All such uncertainty is removed in Scotland by the Crown reserving the right to institute analyses and extraordinary investigations, which are specially paid for. The rule in Scotland is to pay a fee of one guinea for each precognition; but a statement at p. 11 leaves this apparently uncertain. Payments to medical witnesses in Scotland are certainly inadequate, but they must not be made worse than they are.

As our limits do not admit of anything like a detailed examination of these treatises, we propose, by way of specimens, to examine their teaching as to post-mortem examinations, infanticide, and the subject of poisons. In both these are special directions given as to making inspections, and the importance of examining the organs of the chest *in situ* is carefully insisted on. The cranium and contents are directed to be first looked at, but Dr Ogston adds the important hint,—"The head should be allowed to remain in the same posture till the state of the heart and large vessels in the thorax is ascertained; or, if lowered to its former position, an assistant should be directed to compress the vessels at the base of the skull, and prevent any draining of blood from the carotid and vertebral arteries or jugular veins" (p. 404). As to the spine, Drs Woodman and Tidy give no information as to when it becomes necessary to examine this organ. Dr Ogston, however, gives the following important caution:—

"When there is room for the slightest doubt to be raised whether the diseased appearances found in the inspected parts are sufficient to account for death, the whole length of the spinal cord ought to be laid bare, which will put it out of the power of the counsel to raise quibbling objections on the trial, as occurred in a case tried in Aberdeen at the Autumn Circuit, 1838. Two men were seen to quarrel in a crowd at a cattle-market in Banffshire, when one of them, a stout, powerful man, threw the other on his back, sat down cross-legged on his chest, and twisted his victim's cravat till death by strangulation followed. The medical inspection was not a very full one, and the spine had not been opened. This admission was taken advantage of by the counsel for the defence, who set up a theory that the man had died of spinal apoplexy,—a plea which, however improbable in the circumstances of the case, could not be satisfactorily refuted by the Crown, from the want of any evidence as to the state of the spine." The Crown lawyers or the jury must have been sadly imposed on by this defence, for the assault committed fully accounted for spinal apoplexy, had that been present. We have heard the late Mr Syme allude to this case as if he had been present at the trial. He used to mention that the prisoner's advocate urged that there might have been some latent weakness or disease of the upper cervical vertebræ, and he pled this in explanation of the sudden death. In the majority of cases it is, in our opinion, sufficient for the medical examiner to assure himself of the integrity of the cervical spine by examining it externally after the removal of the gullet and trachea.

The subject of infanticide is very fully discussed in both treatises. Professor Ogston devotes five lectures to it, and, on every practical point, gives us the benefit of his great experience. As to that so-called fallacy connected with the hydrostatic test—the difficulty of distinguishing artificial insufflation from natural respiration—Drs Woodman and Tidy, after citing from Caspar that "we may with certainty conclude, from certain appearances, that the lungs have been artificially inflated," gives the warning on the very next page—"Do not profess to distinguish with absolute certainty between artificial inflation and natural breathing" (p. 797). This wavering statement must perplex the medical practitioner. Professor Ogston, on the other hand, gives no uncertain sound. "In all the attempts which have been purposely made by accoucheurs and jurists to force air into the lungs of still-born infants without opening the thorax it has been found—(1.) That the air forced in found its way into the stomach and intestines chiefly rather than into the chest; (2.) That the lungs, in these instances, contained little or no blood or mucus; (3.) That their cells were ruptured at parts of the surface of the lungs; and (4.) That they exhibited a uniform red colour, and never the mottled appearance pointed out by Devergie and Caspar" (p. 236). Among the tests of live birth Professor Ogston attaches little value to the uric acid crystals in the renal tubuli, as they are only met with in infants who have lived from two to ten days—"a period in which cases of infanticide are very rare, that they have not always been found even in these, and have been met with in bodies which gave evidence of their having perished *in utero* or during labour." As far as we can discover, this test is not alluded to by Drs Woodman or Tidy, which is the more remarkable, as in the specimen report on infanticide which they give at p. 794, the infant examined is supposed to have survived its birth "some days, probably a week at least." Neither do they allude to the test proposed by Wreden, of St Petersburg, viz., the presence of air in the middle ear, and which is thus described by Prof. Ogston:—"Before birth the middle ear is filled with a gelatinous substance, which gradually disappears, and is replaced by air, subsequently to the establishment of respiration, when the child survives its birth. This substance, according to Wreden, is never encountered in the child which has lived for twenty-four hours, though it does not entirely disappear during the first twelve hours. As the result of 300 inspections of the ear in the fœtus and new-born infant, Wendt, of Leipsig, has come to the conclusion that the gelatinous substance can only be expelled by the establishment of full respiration." The editor adds the following important corroboration:—"In about thirty medico-legal inspections the time of the disappearance of the fluid varied within wide limits, from a few hours to two or three weeks, but its absence is a pretty sure test of the establishment of respiration." In both works Tardieu's observations as to the value of the presence of air in the stomach are mentioned, but no confirmation of his opinion is given, while Breslau's observations on the presence of air in the intestinal canal are mentioned by Ogston alone, and dismissed with the words—"This, it will be seen, is an extension of Tardieu's test." Breslau holds decidedly that "the presence of gas in the alimentary canal begins with the respiration. It occurs in the stomach first, passing downwards from this region. It is independent of the ingestion of food." Both these tests are worthy of the attention of medical jurists, and demand careful observation, as they are, within certain limits of time, so as to exclude the action of putrefaction, important as corroborating other signs.

We cannot, however, help remarking that the practitioner, whether he takes the guides whom we are quoting, or even the text-books of Taylor or Guy, must feel himself sorely perplexed by the niceties of examination which he is enjoined to attend to in such cases, viz., the weight of the lungs, the condition of the various fœtal structures, etc., etc. We have long held that the presence of air in the lungs—the result of normal respiration—is the only test to which the attention of the medical examiner should be directed. If the respiration has been imperfectly performed, and only limited expansion of the lungs found, then his opinion should be expressed that he cannot positively affirm that the child survived its birth. On the other hand, should the lungs afford unequivocal evidence of full and complete respiration, then he can with certainty affirm that the child survived its birth, and therefore that the killing of it amounts to child murder. By trusting to this simple rule, the medical man can with confidence give evidence in these cases, and save himself disquieting thoughts as to the precise weight of the various lobes of the lungs, or the exact condition at varying stages of respiration of the various fœtal structures—the examination of which demands careful dissection and very accurate measurement.

In the dissection of the body of a newly-born child, we observe that Professor Ogston makes no allusion to the examination of the windpipe. A similar omission is made by Messrs Woodman and Tidy, although directions are given to ascertain such unimportant minutiæ as the weight and size of the liver, etc., etc. We also are surprised to find no instructions in either treatise as to the number of pieces into which the lungs should be divided in performing the hydrostatic test, although, strange to say, the temperature of the water in which the experiment is made is carefully noted. In a case of infanticide tried a few years ago before the High Court of Justiciary, exception was taken to the report, inasmuch as the lungs had only been divided into eight pieces ; and Taylor was quoted to show that the division should have been more minute. Taylor's directions are, "twelve or fifteen pieces," while Guy is silent on the subject. None of our authors specify the best manner of applying compression to the lungs. Guy is here precise, and mentions twisting in the folds of a piece of cloth ; Taylor merely states that the compression should be "firm." In discussing the causes of death in newly-born children, the value of punctiform ecchymosis as evidence of suffocation is considered in both treatises. Professor Ogston is stated by Messrs Woodman and Tidy as unwilling "to allow that the occurrence of these ecchymoses is uniform in cases of suffocation, and to have found them in other modes of death." Ogston, however, in concluding a full investigation of the whole subject, affirms, "I am disposed to give a higher value than most of my contemporaries to the punctiform ecchymosis as an indication which, when present and well marked, if not an infallible one, may be looked on with some confidence as a strong indication in children of death by smothering, where no other cause of death is obvious or presumable." In a special report of a case of infanticide, given at p. 644, we observe that the only mention of the heart is—"the heart containing fluid blood." The state of the two sides of the organ is not mentioned, although at p. 405 the following sentence occurs, with which, we need hardly add, we agree :—"If death has taken place by coma or asphyxia, a strong confirmation is obtained when the right cavities of the heart are found gorged with blood and the left nearly empty." Messrs Woodman and Tidy are more precise in their medico-legal report:—"The right heart was loaded with dark blood. The left side of the heart was empty." Unfortunately no mention is made by them of the character of the blood or its fluidity.

One point of great interest to the medical jurist, and which has given rise to much discussion, is well explained by Messrs Woodman and Tidy, and to us the explanation is novel and satisfactory. "There is, however, one great difference between the lungs of young children and those of aged adults as regards suffocation. If the child be vigorous and well developed, the muscular and elastic forces of the arteries and arterioles will be sufficient to drive the blood on after the heart has ceased to beat and respiration is prevented. Such lungs will therefore be often found comparatively bloodless or anæmic, but with a large amount of emphysema or dilatation and rupture of the air-cells, owing to the violent attempts at inspiration or breathing. Some years ago the authors were somewhat puzzled at discovering these results of the vitality of the tissnes. There could, however, be no doubt as to the facts, as they were found in accidental cases where the suffocation was undisputed and fully proved" (p. 788).

Dr Ogston, in our opinion, very wisely enters into no minute details as to the special poisons, but contents himself with devoting five lectures to the subject of general toxicology. In these he discusses the various preliminary topics met with in all treatises on the subject, and gives special directions for the investigation of cases of poisoning. Drs Woodman and Tidy, on the other hand, devote nearly the half of their bulky treatise to the subject of toxicology, which occupies 54 pages out of the total 1175. Their account of the chemistry of the various poisons is in many cases too minute, and, we think, misplaced in a forensic treatise. Indeed, large portions of this part of their volume would find their proper place in a chemical hand-book. At the same time, an enormous amount of labour has been bestowed on the recent literature of each poison; and, while it would be easy to point to cases which have escaped notice, we must express our obligations for the fulness of the information, and for the novel and striking tabular manner in which the details of the various cases are recorded. The accounts given of arsenic and prussic acid may be mentioned as excellent examples of the exhaustive manner of our authors. Strychnia poisoning presents, on the other hand, many striking deficiencies,—the case of Palmer is not alluded to—the method of analysis devised by Stas is described in a modified form, but not named, while that of Mr Rodger for the detection of strychnia in the bones is described at length—the importance of the bitter taste and crystalline form is not insisted on; and we think that the following sentence savours too much of the hereditary teaching of the London Hospital:—"Failures in detecting the poison, it must be admitted, have too often been due to miserably imperfect methods of research, and the employment of rough processes that modern chemistry will not sanction." It is remarkable, too, that a work which gives us so many interesting details as to rare and out-of-the-way poisons, should say nothing as to the akazga poison described by Professor Fraser of this University, who has ascertained the important fact that it produces the same coloured reactions with the colour-tests as strychnia! "Pharaoh's serpents" are not forgotten. "The toys called Pharaoh's serpents consist simply of sulpho-cyanide of mercury ($Hg, Cy_2 S_2$). These playthings ignite easily, and are dangerous from the fact that the vapour of metallic mercury is given off, together with mercuric sulphide, nitrogen, carbonic and sulphurous-acid gases, a light solid material being left (malonide of mercury), which forms the remarkable snake-like coil. They require care in their use." A case of poisoning by swallowing one of the little cones of the sulphocyanide of mercury is recorded.

In the investigation of a case of a poisoning, our authors would lead us to infer that the medical inspectors who make the post-mortem examination should not open the stomach and intestines, so as to assure themselves of the condition of these organs as soon as possible after death. At p. 51, they direct that the stomach should be removed without opening it, and should be at once placed in a clean stoppered bottle; and, again, similar directions are given as to the intestines. Now, on this point Dr Ogston gives no uncertain sound; he recommends that the medical inspectors should remove and carefully note the condition of the mucous surface of the whole digestive tract, and not leave this to be determined some days after, when putrefaction has made rapid progress, by a chemist who has had no medical training. Dr Ogston further gives excellent practical advice to the medical man who may have been called to a case of poisoning, and subsequently has to give evidence regarding it in a court of law. With the following remarks we beg to express our entire concurrence :—"On the trial, the practitioner may be called upon to give evidence as to the possibility or probability of poison having been administered so as to cause death, where the public prosecutor is not in a condition to condescend on the particular poison which has been employed. Here nothing short of the most intimate familiarity with the effects of the large majority of the known poisons, in addition to no ordinary acquaintance with the course and termination of acute diseases generally, will suffice to keep the medical witness clear of the risk of falling into dangerous mistakes. Hence it is that I view with some distrust the practice now becoming so common in England, and favourably regarded in Scotland, of separating the two departments of the du'y of the toxicologist—assigning to the medical practitioner the investigation of the symptoms and morbid appearances in any given case, and to the mere analytical chemist the task of isolating the suspected poison. The connexion between the poison and its effects is, in many instances, so close that the examiner requires to unite the twofold qualifications of pathologist and chemist to be fitted properly to discharge this important duty" (p. 567).

We observe that Dr Ogston prefers the classification of Orfila, into irritants, narcotics, and narcotico-irritants, while Drs Woodman and Tidy divide poisons into mineral, vegetable, animal, and gaseous. The later classifications of Taylor and other authors are ignored in both the volumes under review.

Professor Ogston's lectures have had the advantage of revision by his son and colleague, who, in the preface to the volume, intimates that while "intended primarily for Scottish practitioners, no pains have been spared to fit them for a wider sphere, by the addition of the legal forms in use in England and other countries, where these have been found to differ from those of Scotland." In subsequent editions we think that concealment of birth—a crime known only in England—should be fully discussed, and the distinction stated between this crime and concealment of pregnancy, and that the later work of Macdonald on Criminal Law should be put under requisition, and given a place in the list of authorities. A reference to it would, we think, have prevented the positive statement with regard to the Scotch crime of concealment of pregnancy, that "it has not been determined whether the charge may be repelled by proving that the child was still-born" (p. 209). At p. 91 the ages given should be specially held to be applicable only to English law.

Both volumes are illustrated. We cannot praise the full page etchings in Professor Ogston's lectures; they are poorly executed, and detract from the otherwise handsome look of the book. A special feature in the *Handy-Book* is the coloured plates of the stomach as affected by various poisons. They, too, are unsatisfactory, can be of no use to the practitioner of law or medicine, and unfortunately enhance the price of the treatise, almost putting it out of the reach of the student. The other wood-cut illustrations are chiefly copies, and can only benefit those who have an imperfect knowledge of anatomy. We must except those in the chapter relating to the use of the microscope in legal medicine. No better account of the tests for blood than that furnished by our authors is to be found in the language. We have to speak in terms of high commendation of the admirable indices, which add so much to the value of both volumes. Professor Ogston's lectures are an important addition to the literature of medical jurisprudence, and constitute one of the few works in the language which contain the results of independent research. Were the dimensions of the *Handy-Book* curtailed, especially in the department of toxicology, and its price reduced, it could not fail to be a popular text-book, embodying, as it does, the most recent information and references to cases and trials, which are still engaging the attention of the profession.

Hints on Ophthalmic Out-Patient Practice. By CHARLES HIGGENS, F.R.C.S., Ophthalmic Assistant-Surgeon, Guy's Hospital; Lecturer on Ophthalmology, Guy's Hospital Medical School. London: J. & A. Churchill, New Burlington Street: 1877.

THIS little book contains a great deal of sound useful information for the student and general practitioner. It is divided into eight sections, each of which treats of an associated group of diseases of the eye in a clear but much too brief manner. Thus, in section six, extending over only nineteen pages, we have the following subjects clearly but briefly explained and treated:—"Acuteness of Vision," "Field of Vision," "Anomalies of Refraction," "Range of Accommodation," and "Presbyopia."

In a future edition of the work we hope to find the arrangement improved, and an index added, which would, we feel confident, give the work of one who knows what his work is much more value to the student, and render it useful to the specialist as well as the busy general practitioner.

The Medical Digest: Being a Means of Ready Reference to the Principal Contributions to Medical Science during the last Thirty Years. By RICHARD NEALE, M.D. Lond., Member of the Dutch Medical Society of Batavia, Java. London: The New Sydenham Society: 1877.

THE idea of this volume is a good one. Something of the kind had been contemplated all along by the Society, but never carried out till now, when Dr Neale offered his manuscript, exactly as it is printed. It had been compiled for his own use, and, as the result of much labour and care, is, we consider, very creditable to that gentleman. "It is by no means exhaustive," as the Council say in a prefatory notice, "but its references are yet exceedingly numerous, and so classified as to greatly facilitate their employment." There is a very full index, extending to about seventy pages with double columns. We have been at the pains of testing this index in a good many instances, and have come to the conclusion that it may be relied on for discovering easily the contents of the volume. These last represent almost entirely the more important communications which have appeared or have been referred to in the half-yearly, quarterly, monthly, and weekly publications of the medical press. Independent works are, as a rule, not mentioned, unless they have been previously taken notice of in retrospects or reviews.

Iritis. By James A. Spalding, M.D. Harv. Read before the Cumberland County (Me.) Medical Society, April 1877.

In this paper Dr Spalding goes most thoroughly into the subject which he brought before the members of the Cumberland County Medical Society, as it is "a disease not infrequent amongst diseases of the eye; because, if neglected, it leads to grave results; and finally, and most especially, because I wished, in bringing the question before you, to gain new light from your own experience as to its syphilitic or arthritic origin or causation."

The members of the Society were generally of the opinion that, in country practice, cases of iritis were more often due to an arthritic than to a syphilitic diathesis. The use of a moderately strong solution of atropia sulphate (thirty-three cg. to thirty-one grammes of distilled water or rose water) is the principal, if not all the treatment of Dr Spalding. A quotation from this pamphlet, the perusal of which we recommend, we consider worthy the notice of the medical practitioner—especially the busy one—and the dispensary surgeon:—"In case we have to leave the application of the leeches to the patient, we should *mark the place where we wish them applied*, lest the patient apply them too near the eye, or to the lids, or even to the eyeball itself, with most destructive results."

The Action of Medicines. By Isaac Ott, A.M., M.D., formerly Demonstrator of Experimental Physiology, University of Pennsylvania. With Twenty-two Illustrations. Philadelphia: Lindsay and Blackiston: 1878.

We are very much at a loss what to say about this book, having a strong individual opinion, formed partly from observation, partly from reading, that it is unsatisfactory, and often unsafe to be guided, in our therapeutic treatment of man, by the apparent effects of remedies on the lower animals. The author seems to be an adept in vivisection, and to employ all available means for performing his experiments in an accurate scientific manner, with due regard to the ascertained facts of physiology, and, we may add, with a proper desire to obviate as much as possible the sufferings of the creatures subjected to them. His instructions, therefore, are useful to those who may go in for that sort of thing—to use a current mode of expression; but we are doubtful if his conclusions will inspire much confidence in practitioners of medicine whose previous attainments have been made by careful, prolonged, responsible, and varied observation in the chambers of sickness. The statements made in regard to the action of remedies are, to our mind, too much *ex cathedra,* too free from hesitation, too complete, in short, when all the difficulties and sources of fallacy are kept in view.

We may remark, in passing, that Dr Ott believes unhesitatingly that atropia is the great remedy for opium-poisoning when administered subcutaneously by injection. He might have added with equal confidence, that morphia is the remedy for poisoning with atropia.

In our remarks we have no wish to disparage a book which must have cost its author considerable trouble. It is one to be consulted on occasion, and may in that way give interesting suggestions to those who have previously gained familiarity with the therapeutic uses of a medicine.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVII.—MEETING IV.

Wednesday, 6th February 1878.—Professor SANDERS, *President, in the Chair.*

EXHIBITION OF PATHOLOGICAL SPECIMENS.

I. *Professor Spence* showed—(1.) A preparation of considerable interest, viz., a GOITRE removed from a girl æt. 13. It was very large, and constricted by the omohyoid, sternohyoid, and sternothyroid muscles, so that it looked as if there were distinct tumours below the angles of the jaw. There was little hæmorrhage during the operation, and that only from the superficial incisions. When the tumour was removed, the trachea was seen to be compressed so much that it looked as if tracheotomy would be necessary. The patient suddenly sank next morning, probably from exhaustion, and there was found a small amount of *œdema glottidis.* A sister of this patient, æt. 9, had also a similar larger tumour, which had benefited from blistering. (2.) Two specimens of EXCISION OF HALF THE TONGUE. The tongue and tonsils, in the one case, were large and swollen; but the disease seemed confined to the one side. He removed the diseased part with the knife and thermo-cautery. On dividing the jaw in the middle line, previous to this, the disease was seen not to be confined entirely to the one half of the tongue, but to extend obliquely at the tip. In the other case, the disease was less extensive, and the mouth not swollen. He removed the diseased part two lines in front of the base of the tongue, and did not divide either the jaw or the cheek. (3.) A specimen of DISEASE OF THE SHOULDER-JOINT, of great interest pathologically. The case was that of a child, æt. 14, with a large abscess around the shoulder-joint, from disease in the surgical neck and tuberosities extending down to the shaft. At a recent meeting he had shown a specimen of caries of the neck of the femur. In this case they could see the incipient disease of the cartilage spreading from the diseased state of the underlying bone. (4.) A SPECIMEN of the whole SHAFT OF THE ULNA, removed for acute necrosis by resection. A large abscess had formed, and irritative fever was present. He opened the abscess and, finding the bone bare, stripped the periosteum off and removed it. The abscess, however, continued to discharge; and, as he found, on examination, that it communicated with the joint, he excised the upper part of the ulna. The result had been good, and it would be interesting to see how the condyles of the humerus would move on the upper part of the newly formed ulna. (5.) A TUMOUR of the jaw removed for cancer. Part of the jaw, masseter muscle, and all the submaxillary gland were therefore removed.

II. *Dr Kirk Duncanson* showed WEBER-LIEL'S EAR-MAGNIFIER and EAR-MICROSCOPE. Weber-Liel describes the mechanical construction of his ear-magnifier and ear-microscope in No. 10 of the *Monatschrift für Ohrenheilkunde,* October 1876. He had previously exhibited the instrument in the Otological Section of the Naturforscher Versammlung in Gratz, as well as at the Surgical Congress in Berlin. After many failures, he has finally succeeded in having the instrument so constructed as to be of thoroughly practical benefit in the diagnosis and treatment of diseases of the ear. After we have, by the usual means of examination, obtained a knowledge of the condition of the external ear-passage and drumhead, we are able to examine most minutely the structure, movements, etc., of the membrana tympani, and the deeper structures of the ear by the use of the ear-microscope. Of course, with the microscope the parts are seen reversed. With the ear-magnifier as well as with the microscope, on account of their forming an air-tight cavity with the external auditory meatus, we can, by exhausting the air in the cavity, or by forcing air into it, see how the membrani tympani acts under these coarser impressions. With the microscope, by previously having dusted the membrane with flour, we, by singing or speaking into the tube, can observe the separate particles as it were forming into lines, which enable us by means of the micrometer in the eye-piece of the instrument to measure the swinging capabilities, on account of the sound-waves, of the different dusted parts of the drumhead we take under our notice. For example, we notice how slight the movements of the other segments of the drumhead are in comparison with those of the posterior segment. We will also observe in certain pathological conditions of the membrane, that the capability of excursion of the parts is not diminished, as is generally supposed, but is much increased.

The instrument has been successfully constructed by Wasserlein of Berlin.

III. *Mr D. J. Hamilton* showed a series of MICROSCOPIC PREPARATIONS illustrative of different diseases of the kidney, and, among others, that accompanying scarlet fever. In all the cases which he had examined, the change had been essentially that of an acute interstitial affection, characterized by the production of immense deposits of inflammatory cells between the convoluted tubules of the cortex, sometimes distributed profusely, but much more frequently in and around the glomeruli themselves. The lesion which was most typical corresponded to what has been described by Klebs as, "glomerulo-nephritis." In one instance this lesion was developed to a most remarkable degree, and the appearances both to the naked eye and microscopically were quite characteristic. The organs were taken from a child who had suffered from post-scarlatinal dropsy, and died with uræmic symptoms. They were about twice the natural size, the capsule was non-adherent, and on stripping it off, an extremely pale-yellow mottled surface was left, with here and there congested venous radicles. On cutting into the organ, the cortex was found to be enormously enlarged, of a pale-yellow colour, and had a mottled appearance, very much like, at first sight, the mottling seen in parenchymatous nephritis. On a little closer inspection, however, it might be noticed that the pale spots producing the mottling were rounded in shape, and corresponded to the situation of the Malpighian bodies. The microscopic examination confirmed this opinion, the lesion being entirely confined to the Malpighian bodies. The first thing that seemed to take place was a proliferation of the connective-tissue nuclei within the Malpighian tuft, giving rise to great constriction of its bloodvessels. The Malpighian capsule then participated in the same process, becoming much thickened. Finally, for a short distance around the Malpighian body there was very considerable inflammatory exudation of a similar nature, but limited to this neighbourhood. The epithelium in most of the convoluted tubules seemed comparatively normal. There was no blocking up of the tubules as is generally supposed, and it was only here and there that the epithelium appeared to be at all fatty. The lesion was entirely different from that met with in acute tubular nephritis, any alteration which might exist in the epithelium of the tubes being undoubtedly secondary to the much more evident and much further developed acute interstitial change. The medulla, further, was deeply congested, apparently from the obstruction to the circulation in the Malpighian tufts. The lesion seemed to be a very fatal one, and was usually accompanied by coma and convulsions. In other cases of scarlet fever which Mr Hamilton had examined, the lesion was always markedly interstitial, affecting the cortex chiefly, and characterized by the deposition of inflammatory material between the convoluted tubules. In those cases where there was a tendency to resolution, it was apparently brought about by the inflammatory cells becoming fatty instead of organizing; they broke down after a time and were absorbed. The other specimens were illustrative of different forms of Bright's disease, with more special reference to chronic interstitial nephritis, which in all respects was a truly inflammatory process, and similar in its different aspects to like affections in the liver and lung, although by no means necessarily accompanied by them. Preparations from a case of pyelo-nephritis were also exhibited, showing a complete infiltration of the organ, with putrefactive organisms of the micrococcus variety. The affection presented exactly the same features as a diphtheritic mucous membrane, and undoubtedly was dependent on the same cause, namely, the introduction of some septic material into an organ previously weakened by disease. The beginning of the cases was usually a catarrh of the whole genito-urinary tract followed by the passage of the catheter. There could be little doubt that this latter was the means by which the septic virus was introduced. The subsequent course of the disease consisted in the formation of a diphtheritic surface in the bladder, ureters, and kidneys themselves. The introduction of the catheter into a healthy bladder had evidently no effect; it was specially where there had been an old standing cystitis that it was so extremely dangerous.

IV. *Professor Fleeming Jenkin* then read a paper on SANITARY INSPECTION, an abstract of which by the author will be found on page 865 of this Journal.

The President had listened with much interest to Professor Jenkin's paper, and would be glad to hear any remarks on it.

Dr Taylor asked if this Association contemplated the inspection of dairies.

Professor Jenkin thought this lay more in the province of medical men and chemists. The drainage and ventilation of dairies, however, would be inspected.

Dr Taylor would not feel safe under the protection of this Association unless dairies were inspected.

Professor Grainger Stewart said that so soon as he had heard of the formation of this Association he had come to the conclusion that it would be a great boon to the community. In common with other practitioners of medicine, he had seen only too often how defective the drainage arrangements in Edinburgh houses were. One house, situated in one of the best parts of the city, was for long known to be exceedingly unhealthy. On examination it was found that just as some manufactories consumed their own smoke, so this house consumed its own sewage, for in the whole basement story there was an accumulation of filth, and for years and years there had been no escape of sewage. There was an excellent drain, but nothing in it; so spacious was it that an Irish labourer made his way through from one end to the other. It was then found that a grating had been fixed at one end to prevent the entrance of rats into the house. This became blocked, and through the rat holes the sewage percolated into the basement. This condition led to a state of chronic ill health, which was not understood until the state of the drains was investigated. Then again, in a school where there was typhoid fever the drains were looked to, and cesspools in front of, and behind, the house cleared. But after some fatal cases, further examination was made, and a huge cesspool found under the basement of the house, a cesspool whose existence was not known to the inhabitants, and which consequently had not been emptied for many years. Such cases showed how much inspection was needed. In the first house the inmates thought they were delicate; in the second they considered themselves well until the typhoid came. He had risen to say how useful he believed such an Association as that proposed by Professor Fleeming Jenkin would be, and that he intended to become a member of, and take an interest in it.

Dr James Carmichael had listened with interest, and thought the Society was indebted to Professor Jenkin for so cordially coming forward. He wished, however, to say that he thought it inapplicable in a large number of cases, viz., in the houses of the poorer classes. He hoped that Professor Jenkin's ingenuity would overcome this, and that soon such inspection as he advocated would be compulsory.

Dr A. G. Miller wished to say a few words on what was a pet subject with him. He wished to direct attention to two points. In the first place, while Professor Jenkin had admitted that doctors had very frequently detected defective drainage, he yet spoke as if they should now give up attention to such matters. He thought, however, that medical men should be associated with the engineer, and that the latter should submit his plans to him. In the second place, while he had no farther objection to the Association, he thought it should go farther. Prevention was better than cure. The drainage in Edinburgh houses was simply disgraceful. He hoped the day would come when a builder who willingly and knowingly laid a bad drain, which gave rise to illness or loss of life, would be put on trial for his life, or at least severely punished.

Dr James A. Russell wished to point out that, as much building was going on now, the Association could do something at present to prevent a bad system of drainage being adopted. They could only tinker the old houses, but the drains in new ones could be rightly arranged without cost. The plan of having pipes so placed as to be available for inspection could be easily enforced. Quite recently, on looking at a new terrace being built, he noticed that the soil was so wet that he only hoped the builder himself would occupy the basement. In other cases all sanitary laws were set at defiance. He had seen the Lord Provost, and suggested that certain sections of the English Acts might be adopted in the New Police Act. He received a letter saying that some of them would, but that others were already in the Provisional Order. They were of no use, however, as they were not enforced, and would not be until public opinion was educated to ask for them by this Association or otherwise.

Professor Simpson felt greatly indebted to Professor Fleeming Jenkin for his clear and beautiful exposition of the objects and method of working of the Sanitary Association. Immediately after he had an opportunity of examining the constitution of the Association he had sent in his name as a member. He was glad the subject had been gone into so fully and admirably, and that its importance had been recognised by so large a meeting. He could add many instances such as Professor Stewart had already given. Indeed, they had all seen enough to make them grind their teeth at architect, clerk of works, or plumber, who should thus sow the seeds of death. Probably all medical men shared the feelings expressed that more should be done in the way of extending compulsory inspection; but they ought to be glad that a beginning was being made, and the Sanitary Protection Association deserved credit for taking the first steps towards its realization. They would rejoice to have the scope of the Association soon extended. One effect would be that none would go into a new house without a previous reliable inspection of its drainage arrangements. He thought it would be well if, by a vote of thanks, the Society stamped with its approval the views of Professor Jenkin. They heartily wished the Association success, although its efficient working would inevitably tend to reduce their own income by diminishing the number of their patients, and shortening their individual attendance on cases; for not only did defective drainage cause special forms of disease, but it also greatly aggravated diseases that were due to other causes, and greatly protracted the convalescence from them all. He begged to move that "the Society accord a hearty vote of thanks to Professor Fleeming Jenkin for his paper on the working of the Sanitary Protection Association, and declare its strong sympathy with the objects of it."

Dr Blair Cunynghame thought that it would be a good thing if the Association exercised a supervision over work, such as plumbing, while it was being done.

Dr Clouston concurred with all who had already spoken as to the immense importance of the subject. He had been educated, unfortunately, in pre-hygienic times, when hygiene was sneered at, and the health of the scavengers of Paris brought forward in proof of the harmlessness of the absence of sanitary precautions. Within three years after his appointment to a large asylum he lost thirty patients. He did not at first think that there was anything wrong with the drainage, but he soon found out it was as bad as it could possibly be. A great amount of money was spent in putting matters right, with the result of abolishing disease. When appointed after this to another large asylum, built under the direction of two of the most distinguished late Edinburgh architects, he found the place surrounded by a series of small cesspools causing continually septic diarrhœa, and most of the drainage arrangements most defective. Since this was put right, the health had greatly improved and the sick among the men diminished by a half. He felt strongly that inspection should be extended to public institutions. Some of these were as bad as they could possibly be. For such inspection they should pay according to their number of patients. He agreed with Dr Cunynghame as to the absolute badness of most plumbers and many architects' work from a sanitary point of view. Almost the first step in the right direction would be to poison them all off. Of all trades, plumbers were the most unscientific and pigheaded that could be imagined. He had much pleasure in seconding Professor Simpson's motion.

Dr Bryan Waller, *apropos* of malsanitation, gave one or two instances which had come under his own observation.

Professor Spence said that Dr Clouston's remarks brought to his recollection an instance where the fault lay in over-engineering. When he came to have charge of the senior wards ot the Surgical Hospital, which had been built about four years previously, there was a system of ventilation by heated air, exhausting shafts, etc. In three months after he took charge hospital gangrene appeared, and even scratches and healing stumps were affected by it. When, however, the patients were removed to a place well ventilated by doors and windows, they got well in about a week. He did not like special arrangements, unless there was a head engineer inspecting. The system of ventilation he had spoken of had acted well in another institution; but when inspected in his wards an essential part was found not to be in working order, so that unless the nurses had opened the windows the patients would have been suffocated. He had accordingly had the wards altered to the natural ventilation as at present, and had never since seen a case of hospital gangrene in the wards, and never regretted it.

Dr Foulis, as a medical man, had made up his mind to join this Association, for the two reasons that efficient inspection was necessary to ensure that defects would be corrected for the present, and prevented for the future. He had seen a case where two members of a family died in twenty-four hours, in spite of all that could be done by the medical attendant. Professional men called in said there was nothing wrong with the drainage; but a few weeks afterwards half a ton of fluid filth was found under the kitchen floor. Efficient inspection would have prevented this. In another instance these officers were called in to inspect a house where a bad smell was felt. They said there was nothing wrong, but yet it was afterwards found that the sewage from a water-closet above was percolating between the walls of the room. All medical men should consider it their duty to bring before their patients the fact that a poison could be swallowed although it was not smelt. Every one nowadays was learning physiology and the laws of health. Let them encourage this, as it would promote the subject of sanitary reform.

Dr Argyll Robertson quite concurred with those who had already spoken, that the Association was ably devised to meet a crying evil. He wished to direct Professor Jenkin's attention to the fact, that during the absence of people in the country the water in the proposed trap would evaporate. He would like to know how this could be obviated.

Dr Peter Young approved highly of Professor Jenkin's project, but objected to a duty being thrust on private individuals which public ones should perform. In the case of public buildings they could not get a certificate from the burgh engineer that all was right. In this there was something wrong. Private associations, however, could not do what public ones should.

Professor Jenkin said that, in his reply, he would begin at the end. However good the public drains might be, the internal fittings of a house would require systematic inspection, and he did not think compulsory inspection of internal fittings would be agreeable to the householder, or that it would ever be proposed by the public authorities. One evil of all official inspection was that the inspectors could only exact a minimum, so as not to be harassing. The private association, however, could recommend what was best, as it was not compulsory to adopt it. They would make arrangements to criticise drainage, etc., in progress in new houses. Dr Argyll Robertson's remarks were important; and he did not know at present what could be done. A communication with the air could however be made. He cordially agreed with all Professor Spence said. They would be ready to inspect plumbers' work and any plans submitted to them, but to recommend any special men would be invidious. They would be only too glad to inspect public buildings at appropriate charges in proportion to size, etc. They had no desire to exclude medical men from their plans. Nothing would help their Association so much as the co-operation of the medical profession. In the last place, there were undoubtedly many who were too poor to pay a guinea, and yet too rich to ask alms. They might have a lower rate for such, or the plan of co-operation might succeed.

The *President* then put the vote of thanks to the meeting, when it was carried unanimously. In conveying this vote of thanks to Professor Jenkin, the President pointed out how closely the matter was connected with medical men. They had fought the battle of sanitary reform single-handed, with neither engineers nor the public on their side. He further supported the Sanitary Association, because it did not proceed on a one portal system, letting loose a flood of half-educated men on the country, but cultivated the best men, and gave them the best opportunities for study. If the Association did good, and if its work was good, then all classes would join it; for even the poorest would make almost any sacrifice to secure the health of their families. The debate had been a most interesting one.

Professor Fleeming Jenkin thanked the members for their cordial vote of thanks, and expressed his deep sense of the great importance of the efforts medical men had made in the matter of sanitary reform. He had no wish to exclude them now, and thought that when a medical man had studied the subject he might very properly be consulted by his clients as to recommendations made by an engineer. Engineers were now coming to assist, not to displace, medical men, and he hoped their co-operation would be effectual.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING V.

Wednesday, 13th February 1878.—Dr DAVID WILSON, and afterwards Dr KEILLER, *in the Chair.*

Dr Murray, North Leith, and Dr Spence, Burntisland, were elected Ordinary Fellows.

I. *Dr James Carmichael* communicated a paper by Dr Paul F. Mundé, of New York, on the DULL WIRE CURETTE IN OBSTETRICAL PRACTICE (which appeared at p. 819 of this Journal).

Dr Keiller considered the communication now read exceedingly interesting. Dr Mundé had favoured the Society with an excellently-written paper on a subject very seldom referred to by authors; it is full of practical import, which, however, demands careful consideration. He had, for many years past, been in the habit of using an instrument for diagnostic and curative purposes not at all unlike that referred to in the present paper. The resemblance was so striking that he would be glad to exhibit it along with other instruments in his possession which he had constructed and almost daily used in practice. He thought the curette a useful instrument in some cases, though he would not be inclined to use it so freely as Dr Mundé seemed in the habit of doing. It could not always be applied with such ease as described, without previous dilatation of the passages. He thought that, in all cases where we could introduce the finger to examine the interior of the uterus, it was desirable and preferable to do so. In most of the cases of such a nature as Dr Mundé related, he was in the habit of having recourse to bi-manual manipulation, and it was wonderful with what ease and completeness we could in this way investigate the uterine interior without any instrumental aid. He thought the curette proved useful in the same way as the uterine sound and such like instruments did sometimes. In the class of cases related by Dr Mundé he had often found these of service. The subject of curettes and curetting was so important, in a practical point of view, that he would reserve further observations on the matter until a future meeting, when he will be happy to show the instruments he had referred to.

Professor Simpson thought that Dr Mundé deserved a cordial vote of thanks for having sent the Society a paper of such interest and high practical value. The subject of the use of such an instrument as that described by Dr Mundé was a most important and practical one. To him the use of a curette such as this for diagnostic purposes, to determine the conditions producing menorrhagia, was quite new. In his own practice, he confessed that, in many cases of menorrhagia, he so far guessed at the exact pathological condition of the interior of the uterus in the first instance at all events; and where the sound did not afford definite information, he usually practised dilatation of the cervix and digital examination, when the ordinary velvety condition of the endometrium, or villosities of some kind were, for the most part, easily recognised. He thought it an important step in advance in gynecological practice, that, with an instrument of this sort, which could be as easily introduced as a sound, we could arrive at a diagnosis of the exact condition of the uterine cavity. He believed the value of the dull wire curette in chronic endometritis with fungosities must be great. He had not the fear of Recamier's curette expressed by some gynecologists, for he had used it for many years without any bad effect; previous dilatation of the os, however, was had recourse to. He could not agree with Dr Mundé as to the need of this instrument in the removal of placental fragments; he preferred taking away the mass with the finger, previously dilating the os if necessary. He would, however, be inclined to give this instrument a fair trial. As to cases of sarcoma, these were rare, and all required previous dilatation; and, in that case, it was better, in his opinion, to use Sims's or Recamier's instrument.

Dr Angus Macdonald had listened with much interest to the paper and discussion. In the present state of our knowledge of endometritis, we were so much in the dark as to its real nature and treatment that he thought that all contributions which promised to elucidate the subject were worthy of the most careful attention and serious consideration of all gynecologists. He thought, moreover, that if the dull wire curette were as useful as it appeared safe, its introduction was a step in the right direction, and certainly a more promising and less dangerous kind of treatment than that which was usually recommended of introducing caustics, fluid or solid, into the endometrium. Lately, he had observed, in the *Centralblatt für Gynäcologie*, that Dr Böeter of Berlin advises the use of Simon's curette—first diagnostically, and then, if found necessary, for therapeutical purposes without previously dilating the cervix uteri. Since reading his paper he had been anxious to have a favourable opportunity of in this way examining the interior of the uterus, and testing the practicability of the proposal. In a case of severe bleeding, continuing daily for three or four months after abortion, and reducing the patient to the point of death by anæmia, which had come under his care in the Royal Infirmary, he had, contrary to usual experience of such cases, found that the cervix dilated with extreme difficulty. To avoid the possible risks of further dilatation of this extremely rigid cervix, although the cavity would permit the finger to pass into the uterus, he resolved on using Simon's curette tentatively in the first instance; and, on carefully scraping from above downwards the cavity of the uterus, he found on the left and anterior wall nothing, but on the right and posterior wall the instrument each time filled with granulations. He observed that only when passing the os internum pain was produced; but even that was not at all great. The patient was not chloroformed. The instrument was introduced and removed ten or fifteen times before the granular masses were completely removed. Bleeding, though free at first, entirely ceased after the operation. He was inclined to consider this instrument of Thomas's, so well described by Dr Mundé, as a useful one, and he hailed with pleasure its introduction—first, as a useful diagnostic, and, secondly, as a therapeutic agent.

After a few observations from *Dr Croom*, the discussion closed.

MEETING VI.

13th February 1878.—Dr DAVID WILSON, *President, in the Chair.*

Dr Paul F. Mundé of New York was elected a Corresponding Fellow.

I. *Professor Simpson* exhibited a PREPARATION OF THE LOWER PART OF THE BOWEL AND BLADDER OF A MALE CHILD BORN WITH IMPERFORATE ANUS, the second son of a patient of Dr White of Aberdour. He had found it necessary to make an artificial anus. It was evident that the gut did not descend so far as the perineum, but was attached to the fundus of the bladder by fibrous cellular tissue. He had accordingly been obliged to dissect up to close upon the sacral promontory in the region of the sigmoid flexure of the colon, where he succeeded in entering the bowel, making his incision into a pouch formed by the bowel in that situation. Some meconium escaped from the artificial opening, but the child died two days subsequently.

II. *Dr Underhill* read a paper on the STRUCTURE OF A CHANNELLED POLYPUS OF THE CERVIX, which appears at page 884 of this Journal.

Professor Simpson thought the Society was indebted to Dr Underhill for his interesting paper. The point of transition of the basement into the columnar epithelium might depend upon the place from which the polypus sprung in the cervix uteri.

Dr Peel Ritchie thought the paper was a valuable continuation of a series of papers which Dr Underhill had contributed to the forthcoming volume of Transactions.

III. *Dr Duncanson* communicated a translation of a paper by Professor Schroeder, of Berlin, concerning the CONDITION OF THE HYMEN, ETC., AND ITS REMAINS, AFTER COHABITATION, CHILD-BEARING, AND LYING-IN; illustrated by original drawings by Professor C. Schroeder, Berlin, which appears at page 906 of this Journal.

Dr Wilson thanked Dr Duncanson for bringing the paper before the Society, and for the valuable illustrations which accompanied it.

Professor Simpson was very glad to have had an opportunity of seeing Professor Schroeder's drawings, which show incontestably the changes which take place in the condition of the hymen in consequence of labour. There may be some doubt as to the manner in which these changes are brought about, whether by direct laceration or bruising and subsequent sloughing of parts of the hymen. But these drawings illustrate the results produced by the passage of the head, not only in primiparæ, but also in multiparous patients. It was possible to understand the cases in which the hymen had not been torn in spite of the introduction of the penis, when one considers the rich supply of bloodvessels to the parts, making them more soft and easily distensible, and so less liable to tear. Perhaps we were too much given to thinking of the hymen as a mere thin membrane, whereas it was frequently a comparatively thick, fleshy structure.

Dr Peel Ritchie observed that, if we accept these views, we have to alter our opinions on some medico-legal points in connexion with rape and similar subjects. He was taught that it was very rare to find an intact hymen at all.

Part Fourth.

PERISCOPE.

THE ELECTRIC TELEPHONE AS A MEANS OF TESTING OR MEASURING THE HEARING POWER.—Mr James Blyth, F.R.S.E., has so adapted the electric telephone that by a double ear-piece, arranged so as to fit accurately to both ears, or to one ear, without conveying the sound to the auditory nerve through the bones of the head (it can be made to conduct the sound through the bones as well), we can by increasing or diminishing the resistance in the circuit accurately measure the hearing power of one or both ears. By interposing a certain resistance in the conducting apparatus of a given instrument, or not, as required, we can obtain a normal standard. The diminishing of the resistance (the number of resistance-coils each of a fixed value) would give us the hearing power of the auditory apparatus under examination. We would seldom require to *increase* the resistance. The telephone may also be made so as to improve or entirely supersede the present artificial means used for conducting and intensifying the sound-waves to the auditory nerves; a clear distinct sound, not too loud, properly conveyed to the auditory nerve, would be better heard and not so apt to do injury, as many, if not all, of the ear-trumpets, etc, now in use do.—Dr Kirk Duncanson, Lecturer on Diseases of the Ear, Edinburgh School of Medicine, *Brit. Med. Jour.*, 9th March 1878.

ULCERATION OF RECTUM; TREATMENT.—It is the experience in this hospital, that in ulceration of the rectum, whether it be venereal, the result of stricture, or any other cause, the application of iodoform is of more benefit than any other agent in hastening a cure and relieving pain. It may be either used in solution or as a suppository. The solution is made by adding from half a drachm to a drachm of iodoform to two ounces of glycerine, and half an ounce used at a time. The suppositories are formed from butter of cacao, each suppository containing five grains of iodoform. Before using it, evacuate the bowels by means of a purgative or enema, then apply the iodoform at night.—*Charity Hospital, New York, Surgical Division.*

CHANCROIDS.—After the sore has been cauterized by pure nitric acid, or the actual cautery, iodoform proves to be one of the most satisfactory applications.

In chancroids of a chronic nature, where the sores have a whitish look resembling a diphtheritic exudation, bromide has proved to be a most serviceable agent. The method of application is to brush a solution over them two or three times a day. The solution is made by adding half a drachm of Squibb's solution of bromine to an ounce of water.

BALANITIS; OIL-DRESSING. — Draw back the foreskin and thoroughly cleanse the parts, then apply to the glans a piece of muslin saturated in sweet-oil, and retain it in position by drawing the foreskin over it. This is to be repeated once in twenty-four hours. In about four days the inflammation subsides.—*Charity Hospital, New York, Venereal Division.*

FRACTURE OF THE NECK OF THE SCAPULA.—An interesting and rare case of fracture of the neck of the scapula is at present under treatment. The patient said he fell on his shoulder shortly before coming into hospital. When it was examined, the characteristic signs of this injury were apparent, viz., sagging down of the shoulder on the affected side, without dislocation of the shoulder-joint, or fracture of clavicle or humerus. The patient had been the subject of intemperance, and, shortly after admission to the ward, manifested delirium tremens. In the meantime, the shoulder had been put up in plaster-of-Paris dressing by the house-surgeon, Dr J. H. Hunt, and was doing very well; but in his delirium the patient escaped from the hospital building, and again injured it. It was again put in plaster-dressing, and kept so for six weeks, when the dressings were removed, and it was found that not even ligamentous union had taken place, the crepitus being quite distinct. It was put up for the third time in plaster-of-Paris dressing, and continues so for the present. (*Bellevue Hospital, New York, Surgical Division.*)—*New York Medical Journal*, June 1874.

CATHETER BROKEN OFF AFTER MAKING A FALSE PASSAGE, EXTRACTED BY PERINEAL SECTION.—*March* 15, 1877.—I was requested to see A. L., æt. 19, as soon as possible. This young man had been sick nine or ten days with pneumonia. The day before I was summoned he was seized with retention of urine, for which his attending physician introduced a catheter, and in doing so he met with some difficulty and caused a slight hæmorrhage. The next day,—that is, the day I saw him,—on attempting again to use the catheter, more difficulty was encountered, and in some part of the manipulation the catheter broke, and six inches of it was left, as the doctor supposed, in the bladder or urethra, or both, and, without making any efforts at extraction, he sent to me for advice and assistance.

I found the patient in a very feeble condition, with pneumonic consolidation of the upper lobe of the left lung, but did not particularly examine into his general condition.

There was some blood oozing from the urethral orifice, and in the perineum, just behind the scrotum, a hard body could be obscurely felt, supposed to be the end of the broken catheter. Examination through the rectum afforded no assistance in the diagnosis.

A pair of slender forceps could be easily passed down to the point where the foreign body was felt *in perineo*, but did not come in contact with it. It was therefore decided to extract it by external incision.

Owing to his diseased and feeble condition, an anæsthetic was not administered. He was placed on a firm table, in a good light, in the lithotomy position, and I proceeded to cut carefully down upon the foreign body. It was easily reached and extracted through a very small incision in the urethra; no urine followed.

Afterwards I passed a No. 12 catheter with perfect ease, almost without the patient knowing it, and drew off a quart of urine.

The broken catheter extracted was the curved half of a No. 8 silver instrument, six inches in length, showing the mark of a deep indentation at the point where it broke, which the doctor said was there when he used it. It had not passed into the bladder at all, but through a false passage in the urethra, and so between the bladder and rectum.

The patient recovered from this little operation without any trouble. Urine in small quantity passed through the wound for a day or two, after which it ceased, and the wound soon healed.

Remarks.—I have thought this case worth reporting, partly on its own account, but mainly for the lesson it conveys. Medical men who comparatively seldom resort to the use of urethral instruments can scarcely be too often reminded that, simple as it seems, catheterism is an important operation. That it is too often bunglingly done, in such a way as to cause pain and trifling bleeding, both utterly unnecessary in uncomplicated cases, has been proved to me over and over again by the fears of patients when it was proposed, and their pleased surprise when it was accomplished without the least pain. To say nothing of the carelessness of using a bent or half-broken instrument, the present case illustrates two or three points in the use of the catheter to which attention cannot too often be directed.

In the first place, physicians habitually choose too small an instrument, supposing, no doubt, that it is easier of introduction,—an entire mistake.

Less than No. 12 is never needed for a healthy adult urethra, and such an instrument or one still larger will pass with more ease and certainty than a smaller size. In addition, small inflexible instruments are always dangerous, the smaller the more so. Another point, too often neglected, is the proper position of the patient. How often have I seen a physician reaching over, to his own great inconvenience, attempting to catheterize a patient whose hips were sunk deep down into the middle of a soft bed, and who was insufficiently exposed for the purpose, and wondered almost that the thing could be done at all! If the patient had been brought quite to the edge of the bed, his pelvis resting on a firm support or slightly elevated, and his person well uncovered, he would have been saved much pain and his doctor much trouble. And then, in spite of all the anathemas from all the surgical chairs in the country, it seems as though inexperienced manipulators will use force. Nothing can convince them that if the instrument does not pass at once they must not make it pass *vi et armis*, and they are constantly exerting an amount of force with urethral instruments at which an expert would tremble.

These remarks will seem to many like bald and tiresome truisms; but the case I have related shows that there are still some by whom they may be read and pondered with profit.—J. H. Pooley, *in the Philadelphia Medical Times*, 12th May 1877.

TAPPING THE UTERUS.—This case is one possessing an important moral and a certain practical lesson; therefore I report it, not in order to show the progress which the science of medicine has made in this district, but rather to illustrate its peculiar phases. Dr Stickney had been applied to several times by the same lady, during a period of five or six months, for relief from suppressed menstruation. Its arrest, the patient declared, was due to a cold bath which she indulged in just at the advent of a period, and she could not possibly assign any other reason. Cathartics, emmenagogues, etc., did no good. Not having seen or heard anything of his patient for nearly two months, the doctor had given her up, not expecting to hear from her again. Being summoned suddenly one night not long since to see her, he learned upon inquiry that she had been under the care of a surgeon who diagnosticated her disease to be a tumour requiring tapping as the only means of relief and cure. He had already tapped twice, the first time drawing off a quart of water, the second time a pint, and had engaged to tap the third time on the day after Dr Stickney was called. Dr Stickney soon found the lady who had been suffering from suppression of menses to be in labour, and when he, in answer to the interested and anxious inquiries of surrounding friends, announced his diagnosis, both patient and friends denied in concert the possibility of such a dilemma, and hastened to denounce the doctor's opinion and judgment at the same time. A living child was soon born, though the patient still persisted that the whole cause of the tumour was a mystery to her.

The practical lesson is that a common trocar may be plunged into the uterus, the liquor amnii drawn off repeatedly, and no harm result save that of giving rise to premature delivery. I do not report this case as one altogether without precedent, or with the expectation that any one will attempt to repeat the experiment, but to show with what impunity even the uterus may be tapped.—*Boston Medical and Surgical Journal*, 27th July 1876.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By William Craig, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

Glycerite of Kephaline.—Dr E. Wiley, of Philadelphia, contributes the results of some observations on this remedy. Dr Polk applies the name kephaline to the brain hypophosphites in their normal union with albumen and glycerine. This combination consists of the brain hypophosphorous acid, and the brain hypophosphites of calcium, magnesium, sodium, and ammonium, formed into solution and preserved in chemically pure glycerine. The therapeutic properties of glycerite of kephaline are nutrient and tonic. In loss of memory following intense mental action, whether from the emotions or intellect, or from sexual abuse, it very promptly restores the normal brain power. Glycero-phosphorous acid associated with the alkaline hypophosphites constitute a large proportion of the seminal fluid. Whatever entails a heavy loss of these constitutes a severe drain of these hypophosphites, and the administration of the glycerite of kephaline supplies the loss. Dr Wiley has found the glycerite very useful in the early stages of consumption. (*Virginia Medical Monthly*, June 1877.)—*The Practitioner*, March 1878.

Ingluvin.—Ingluvin is obtained from the gizzard of the domestic fowl (chicken), and is almost a specific for the vomiting of pregnancy. Dr Shelley has used the remedy for twenty-five years. It is also the most powerful and reliable remedy for dyspepsia, and sick stomach due to debility of the organ. It is useful in all cases where pepsin and pancreatin are indicated. In complicated gastric affections, such as inflammation, gastralgia, pyrosis, etc., it may be combined with subnitrate of bismuth and opiates; and in diarrhœa and cholera infantum with vegetable or mineral astringents.

The dose for an adult is from five to ten grains. (*Med. and Surg. Reporter*, June 1877.)—*The Practitioner*, March 1878.

HYPODERMIC INJECTION OF COLCHICIN IN RHEUMATISM.—Professor Heyfelder strongly recommends, as having proved successful in his hands, in the treatment of chronic articular rheumatism and in rheumatic neuralgia, the injection of colchicin in doses of one-third of a grain, or, in those who have a delicate skin, of one-sixth of a grain. (*Berlin Klin. Wochenschrift*, No. 15, 1877.)—*The Practitioner*, March 1878.

THE ACTION OF ALCOHOL IN FEVER.—Testi Alberico gives as the result of his clinical investigation upon the action of alcohol:—1. That alcohol does not produce any depression of temperature, when given in febrile states of the system, though high temperatures do not *per se* constitute any contraindication to its use. 2. Alcohol, as long as it remains unaltered in the system, is a powerful dynamic of the vasomotor nervous system. 3. As a consequence of the changes which alcohol undergoes in the system it indirectly becomes a very valuable aliment, whilst it augments the metamorphosis of tissue. (*Il Raccoglitore*, Nos. 10, 11, 1877.)—*The Practitioner*, March 1878.

BÄLZ ON THE THERAPEUTIC ACTION OF THYMOL.—Dr Bälz describes (*Archiv der Heilkunde*, Band xiv., 3 and 4 Heft) the results of comparative experiments with thymol and salicylic acid in Wunderlich's service.

The thymol was administered either as an emulsion or as a mixture. The observations were made in healthy individuals, and on patients with typhoid fever, articular rheumatism, phthisis, and pyelitis, in almost all of whom pyrexia was present. Doses of a centigramme (15 grains) if repeated many times had no result. To produce an appreciable therapeutic effect, the dose had to be raised to a gramme and a half or two grammes (22½ or 30 grains) a day. The author made twenty-six observations with the following results:—If the drug came into direct contact with the bucco-pharyngeal mucous membrane, the patients complained of a sensation of pricking and of a bad taste in the mouth. Nausea was rarely produced, and only once vomiting, in a phthisical patient. If the dose were raised a sensation of heat at the epigastrium was produced, which was, however, transient; the patients also were often attacked with diarrhœa, the evacuations resembling those of typhoid fever. In a majority of the cases the injection of thymol was followed, half-an-hour or an hour afterwards, by sweating, which was more or less localized and abundant, but always less than that produced by salicylic acid and jaborandi. Sometimes, also, but not always, slight diuresis was noticed. The urine presented a dark and somewhat greenish colour, as if mixed with blood, and when viewed by transmitted light it appeared yellow-brown. The addition of a solution of perchloride of iron rendered the urine cloudy and of a gray-white colour. When the green colour predominated, it might have been mistaken for icteric urine, or even for nephritic urine mixed with blood; but the absence of albumen in the latter case would prevent such an error. With regard to the nervous system, singing in the ears and deafness were noticed, and a sensation of constriction across the temples, extremely disagreeable to the patients. More serious symptoms were sometimes observed. Thus, in a patient in the third week of typhoid fever, a dose of three grammes caused violent delirium, which lasted many hours, but ceased when the temperature was lowered. In another case of typhoid fever the patient lost consciousness, and then passed into a state of delirium followed by collapse, which lasted many hours and caused very great anxiety. In typhoid fever and articular rheumatism, and in phthisis often, a dose of from two to three grammes will cause lowering of temperature of at least from 3° to 5° Fahr.; but often the effect is greater than required, and the patients pass into deep collapse. To avoid these effects thymol is administered in fractional doses of 0·25 gramme ($3\frac{3}{4}$ grains) every hour; this will give a total dose of 6 grammes (about 90 grains) in twenty-four hours. The circulatory system is relatively little influenced by thymol. When this drug causes a considerable lowering of the temperature, there is a diminution of the frequency of the pulse, but not in proportion to the lowering of the temperature. The author attempted subcutaneous injections with a solution of thymol, but with no good result; the injection was often very painful, and readily gave rise to inflammation. He concludes that thymol is incontestably an antipyretic, but uncertain in action, and has not the value of salicylic acid and salicylate of soda.—*Medical Record*, 15th February 1878.

CARBOLATED CAMPHOR IN DIPHTHERIA.—M. Soulez employs carbolated camphor in the treatment of diphtheria; the false membrane seems to lose its coherent vitality, and no inflammatory effects follow. M. Soulez dissolves camphor in crystallized carbolic acid, which has itself been dissolved in a very small quantity of alcohol. Nine grammes of carbolic acid to one gramme of alcohol. He uses it either alone or mixed with an equal weight of oil of sweet almonds.—*British Medical Journal*, 16th March 1878.

SUBCUTANEOUS INJECTION OF CHLOROFORM.—M. Ernest Besnier has used subcutaneous injections of chloroform, not only in cases of neuralgia, but in all varieties of pain. M. Besnier performs the injection in two stages, introducing the needle first, and then adjusting the syringe so as to be sure not to penetrate the vein. The injection should be made in the subcutaneous cellular tissue, so as to avoid local phlegmasia or persistent pain at the seat of puncture.—*British Medical Journal*, 16th March 1878.

ARTIFICIAL FOOD IN EARLIEST INFANCY.—The following results have been obtained by Monkeroitz and Kruse from their experiments, made at the Imperial Foundling Asylum, St Petersburg, on various substitutes for breast employed by them when the nurse's supply is insufficient (two infants being given to each nurse). The articles in use by them were, condensed Swiss milk, Scotch oatmeal, fresh cow's-milk, and Nestle's powder. Children during the first five days of life were almost invariably made sick by any one of the above substitutes, which caused disturbances of digestion, and the rate of mortality was increased. Between the fifth and fifteenth day, the Swiss condensed milk acted the most favourably, one part to nine of water. After the fifteenth day, the proportion used was one part to seven, or two parts of this solution and one part of freshly boiled cow's-milk. After the second month, Nestle's powder was by far the most satisfactory substitute. At the best, however, the attempt to use artificial food of any kind before the end of the first month gave most discouraging results. The method of employing substitutes with infants during the first five days of life, was to alternate the breast with artificial food, giving the former five times daily and the latter four times. The amount taken at each meal varied from two to three ounces. The attempts to increase the digestibility of cow's-milk by the addition of soda or gelatine were not successful. (*The Boston Medical and Surgical Journal*, No. 5, August 1877).—*The Practitioner*, March 1878.

Part Fifth.

MEDICAL NEWS.

List of Candidates, who were successful for appointments as Surgeons in Her Majesty's British Medical Service, at the Examination held in London on 11th February 1878.

No.	Names.	Marks.	No.	Names.	Marks.
1.	Stevenson, J.	1970	10.	O'Connell, M. D.	1385
2.	Landon, A. J.	1939	11.	Dempsey, P. J.	1372
3.	Flanagan, J. W. H.	1690	12.	Harding, A.	1355
4.	Lane, W. L.	1605	13.	Dowman, J. F.	1335
5.	Feltham, W. P.	1578	14.	Cross, H. R.	1305
6.	Wallis, K. S.	1535	15.	Young, A. S. W.	
7.	Leah, W.	1520	16.	Noad, H. J.	1245
8.	Ritchie, J. L.	1505	17.	Mac Neece, J. G.	1225
9.	Seymour, C.	1390	18.	Falvey, J. J.	1205

At the meeting of the Medical Society of London held on Monday, 14th January, Mr Wordsworth exhibited six persons belonging to one family who are all affected by congenital displacement of both crystalline lenses.

They consist of Mrs H., her two sons, and their three children. A third son of Mrs H. (who is now in New Zealand) was examined many years since, and his case described in the first volume of the Royal London Ophthalmic Hospital Reports by Mr Dixon. In addition, Mrs H. states that her own father, his youngest brother, and her grandfather were all similarly affected. If this be so, there is a series of *ten* cases occurring in *five* successive generations.

They all complain of being short-sighted; and, on close examination by oblique illumination, and when viewed by the ophthalmoscope, the crystalline lens in each eye is seen to be displaced, and its edge visible in the pupil.

In distant vision, they look through that part of the pupil in which the crystalline is absent; and for near objects, through the crystalline itself.

The family recognised the defect in all who are subject to it; and in those they considered exempt, the examination confirmed their opinion.

The annexed tabular statement, made by Dr Morton, clinical assistant at the Moorfields Hospital, fully shows the particulars of these very interesting cases:—

Mrs H., æt. 59.	Displacement. R. E., upwards and inwards. L. E., do.	Irides light brown—lenses becoming opaque. Vision = $\frac{20}{200}$, scarcely and J. 1 and 8″. After atropine with $\frac{1}{4} = \frac{20}{50}$. With $\frac{1}{2}$ = J. 1 at 6″.
George H., æt. 37.	R. E., inwards. L. E., inwards and slightly downwards.	Irides gray-blue. Vision = { R. E. $\frac{20}{200}$, nearly and J. 19. With $\frac{1}{20} = \frac{20}{70}$, with $\frac{1}{3}$ = J. 12 at 6″. L. E. $\frac{20}{100}$ and J. 1 at $1\frac{1}{2}$″. With $\frac{1}{3\frac{1}{2}} = \frac{20}{50}$ and J. 1 at $5\frac{1}{2}$″.
William H., æt. 35.	R. E., upwards and inwards. L. E., inwards.	Irides brown. Vision = { R. E. $\frac{20}{200}$ and J. 1 at 2″ with—$\frac{1}{2} = \frac{20}{100}$. With $\frac{1}{3\frac{1}{2}} = \frac{20}{50}$ and J. 1 at 8″. L. E. not $\frac{20}{200}$ and J. 1 at 2″ with—$\frac{1}{2} = \frac{20}{100}$. With $\frac{1}{3\frac{1}{2}} = \frac{20}{50}$ and J. 1 at $5\frac{1}{2}$″.
Maud H., æt. 10.	R. E., inwards. L. E., do.	Irides gray. Vision = { R. E. L. E. } $\frac{20}{200}$ and J. 1 at 2″. After atropine with $\frac{1}{12} = \frac{20}{100}$. with $\frac{1}{2}$ = J. 1 at 4″.
Alfred H., æt. 5.	R. E., upwards. L. E., upwards and inwards.	Irides gray. Vision not proved.
George H., æt. 7.	R. E., upwards and outwards. L. E., upwards and inwards.	Irides brown. Vision not proved.

OBITUARY.

GEORGE GLENDINNING, M.B., C.M.—It is our melancholy duty to record the death of one of our young graduates, who had shown great promise of rising to future eminence. George Glendinning, after a course of four years study, graduated at Edinburgh University as M.B. and C.M. in 1874. During his whole course he was passionately devoted to surgery, and his excellent anatomical knowledge, combined with this surgical turn, gave a sure hope that had he lived he would have become an adept in the chirurgical art. After graduating, he acted for six months as resident surgeon in Mr Annandale's wards, and there acquired great surgical skill. His health unfortunately broke down in the end of 1875, and he was advised by Dr Warburton Begbie to leave this country, which he did in the spring of 1876. He acted for a considerable time as resident surgeon at the Alfred Hospital, Melbourne, Victoria, and early in 1877 settled in Geelong, where he was rapidly acquiring a large practice, when he was cut off by an attack of congestion of the lungs on 26th January 1878. Besides being well known as a talented student, he was characterized by a great love for athletics, in which he greatly excelled. Well known to a large circle of friends, he will be greatly missed by all who knew him. He leaves a widow, his marriage having taken place only on 10th December 1877, and this adds to the melancholy nature of his death.

CORRESPONDENCE.

To the Editor of the Edinburgh Medical Journal.

SIR,—I wish to bring before the notice of your readers a slight modification of the handle of Dr Matthews Duncan's forceps, which I believe will prove serviceable in the application of that instrument. It consists merely in an arrangement, by which a flattened bar of steel is fixed to the handle of the left blade (*i.e.*, the blade which is introduced first as the instrument is usually manufactured), so as to enable the hand to grasp it firmly, and prevent any rotation of the blade round its long axis, during the moment in which the second blade is being locked with the first. In the ordinary instrument each handle represents a semi-cone, roughly speaking, with the apex turned towards the blade, and the convexity external, and it is tolerably easy to hold this firmly, when it is dry, and no rotating force is acting on the concave surface of the blade. But few can be unaware of the extreme difficulty that is frequently encountered in maintaining a firm grasp, whilst applying it to the living subject, when it is slippery with blood and mucus.

The first blade is applied easily enough, nor is it a hard matter to adapt the other also to the fœtal head; but then comes the difficulty, that of locking the two together, for it will often happen that at the moment when locking is attempted, the head rotates, and the handle of the blade which was first introduced turns round in the hand of the operator, in spite of all his efforts to keep it momentarily fixed, and thereby renders locking impossible.

It is to obviate the difficulty caused by this temporary rotation, that I have suggested this modification in the handle of the instrument first introduced.

Now, it may be objected that inaccurate adaptation of the instruments is due only to want of skill on the part of the operator, and that such an obstacle would never arise where familiarity with the use of the forceps existed. This may be the case, although I do not believe that it is invariably so, for I have seen practitioners who were well accustomed to its use totally prevented for several minutes from locking the blades, owing to their inability to steady the slippery instrument—and this by reason of the rotating power of the head, which easily overcame any hold which their grasp was capable of employing. And even if this were not the case, what is to be said with regard to the earlier years of practice, in which the requisite amount of skill has to be acquired? Here I think it will be allowed that any arrangement, which secures a more complete control over the instrument, must be of some value.

Then, again, it may be objected that the crossbar would tempt the operator to use active rotation; but the possible abuse of so certain a command as this would give can hardly be maintained as a valid argument against it. The bar, it need hardly be said, is not intended for any active rotation or leverage whatsoever; it is merely to allow the instrument to be held in a given position for a few seconds at the most; nor is it meant to be used for traction—there is no necessity for that—for the two handles when apposed form a flattened cone; and the direction of traction being from the apex of this cone to its base, any force acting in this direction both tends to close the blades and prevents the hand from slipping off the handles—than which a neater arrangement could hardly be devised. There is therefore no need for the bar to be used for traction, though the operator could please himself about that; and there would be no objection to his so using it if he felt inclined. Since it was made I have had the opportunity of testing its efficacy on two occasions only, but on both of these it fully answered my expectations; and by rendering the locking of the blades an instantaneous and easy matter, produced the result which I had intended.

I have had the bar placed at the distal end of the handle, for two reasons, viz., that it is then out of the way of the operator's other hand, and is also removed from the body and bedclothes of the patient.

Supposing the handle of the blade first introduced to be held in the operator's left hand, while the right hand is occupied with applying and locking the second, then, if the bar were at the proximal end, it would be found that the second handle could not be brought near enough to the other to allow even of partial locking without squeezing the operator's fingers, and that, if to obviate this contingency, he tried to withdraw his fingers from the first handle, the blades would probably rotate, and locking be further off than ever from its accomplishment.

For the drawings of the instrument I am indebted to my friend Mr Kingscote, and for the carrying out of the details of the mechanism of the spring in the handle (by which the bar can be fixed in a direction either parallel to, or transverse with, the long axis of the handle), to Mr Hilliard of Nicolson Street.

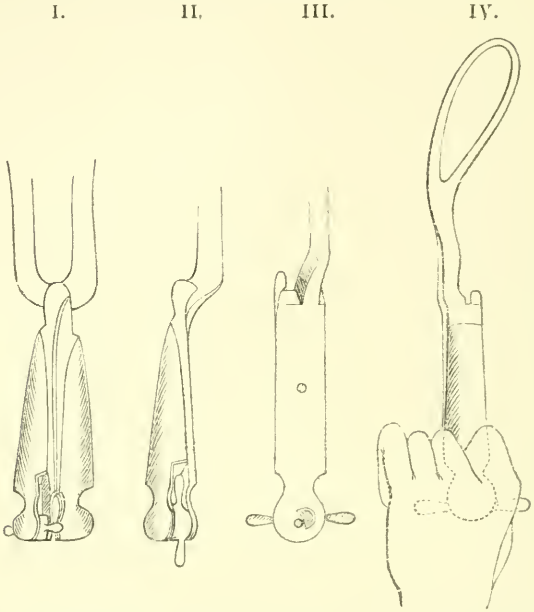

FIG. I.—Represents the handles locked, with the bar transverse.
FIG. II.—The left handle with the bar parallel.
FIG. III.—The same handle with the bar transverse.
FIG. IV.—The first blade as held in the left hand.

T. SANCTUARY, L.R.C.P. & S.,
Edinburgh.

PUBLICATIONS RECEIVED.

E. G. BANNER, C.E.,—Wholesome Houses, being an Exposition of the Banner System of Sanitation. London, 1878.

GEORGE BROWN, M.R.C.S., L.S.A.,—Aids to Surgery. Part I. London, 1878.

Sir JAMES COXE, M.D., F.R.S.E., F.R.C.P.E.,—Lunacy in its Relations to the State. London, 1878.

Diagrams for the Record of Physical Signs. London, 1878.

R. E. DUDGEON, M.D.,—The Human Eye; its Optical Construction popularly explained. London, 1878.

Surgeon-Major G. J. H. EVATT, M.D.,—Army Medical Organization. Lond., 1878.

R. J. GODLEE, M.S., F.R.C.S.,—Atlas of Human Anatomy. Part 3. Lond. 1878.

T. HENRY GREEN, M.D.,—Introduction to Pathology and Morbid Anatomy. London, 1878.

EDWARD LEVINSTEIN, M.D.,—Morbid Craving for Morphia. London, 1878.

T. R. LEWIS, M.B., and D. D. CUNNINGHAM, M.B.,—Cholera in Relation to Certain Physical Phenomena. Calcutta, 1878.

S. WEIR MITCHELL, M.D.,—Fat and Blood, and how to make them. London, 1878.

R. DOUGLAS POWELL, M.D.,—On Consumption. London, 1878.

SYDNEY RINGER, M.D.,—A Handbook of Therapeutics. London, 1878.

Sixth Annual Report of the Local Government Board, 1876–77. London, 1878.

W. STOLZ,—Asiles d'Accouchement de la Ville de St-Pétersbourg. Paris, 1876.

The Public Medical Services. London, 1878.

Transactions of the Obstetrical Society of London. Vol. 19. London, 1878.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Essential Pathology of Puerperal Eclampsia.* By ANGUS MACDONALD, M.D., F.R.C.P.E., F.R.S.E., Physician and Clinical Lecturer on the Diseases of Women, Royal Infirmary; Lecturer on Midwifery and the Diseases of Women and Children, Medical School, Edinburgh.

(*Read before the Medico-Chirurgical Society of Edinburgh*, 3*d April* 1878.)

VERY few subjects can be imagined more capable of arresting the attention and commanding the interest of the obstetrician than that of puerperal eclampsia. The suddenness of its usual onset, the terribleness of its phenomena, and the extreme risks it brings with it to mother and child—all combine to make its appearance an occasion of the greatest concern and anxiety to the patient's friends, but especially to her accoucheur.

But not only is the obstetric physician bound to concern himself deeply with this lesion,—it occupies a position in the boundary land between the pure and the obstetric physician; or, what might with greater propriety be said, between subjects that fall usually under the observation of the physician who restricts his attention to the domain of pure medicine, and that of the physician who practises obstetrics. For I claim for the practitioners that devote their practical attention more particularly to the domain of the reproductive organs of the human female, both the necessity and the right of being regarded as in the first place physicians, and in the second place only obstetricians.

It is only in this way that the gynecologist can be saved from the cramping influence of specialism.

It appears to me that much evil has arisen already to the department of gynecology from too much separation of it from pure medicine. If the earlier obstetricians had encouraged a greater breadth in the views they have taken of the relations of the reproductive organs, when functioning healthily and unhealthily, to the economy as a whole, we should have been saved from not a few of those rash generalizations and crude views that have disfigured and still retard the advance of gynecology.

Still, with all our faults, we have reason to be proud of the advancement of our department within the last quarter of a century.

But to return to the subject.

Though eclampsia occurs in the pregnant and parturient female, it is even more common entirely apart from these conditions, and as a symptom of severe renal disease. It follows, therefore, that the obstetric and the pure physician meet the condition each on his own ground, and that, as both are concerned in its management, both are equally interested in everything that tends to the elucidation of its real nature. For it must be admitted, although with great regret, that its pathology is in a very unsatisfactory position at the present time.

In a former paper published upon this subject, and embracing the records of nine cases, I ventured to suggest that more attention ought to be paid to the condition of the brain in eclampsia than is usually given. The more I have since seen of the lesion the more I have been impressed with the coriectness of this idea, and I have consequently been on the outlook for opportunities to put my ideas into practical shape.

For many causes, an opportunity to examine the brain of a puerperal patient dying of eclampsia is not an occurrence of every day, and it consequently requires time to collect the necessary material. Since then I have been able to obtain on only two occasions dissections of the brains of women who have died from puerperal convulsions. The post-mortems in both these cases were performed for me by Mr D. J. Hamilton, Pathologist to the Royal Infirmary. He has, moreover, subjected the brain and kidneys of the former of the two cases to a most scrupulously-exhaustive, microscopical analysis, of which he has furnished me with a valuable report illustrated by the two drawings I show you.

The first case is a most typical one, and I hope to show, as I get further on in my paper, that it is full of valuable information in respect to the condition of both the brain and the kidneys in eclampsia. The latter case is not so well marked, because it was complicated by severe post-partum hæmorrhage, to which, apparently, the fatal result was mainly attributable. Still, while the evidence of the occurrence of the eclampsia is borne out by the account of this case, as given by a most intelligent and trustworthy nurse, the post-mortem appearances in the kidney were such as we might expect would give rise to eclampsia; and the evidences of brain changes, so far as they were observable, completely accorded with the conditions we met with in an exquisitely-pronounced degree in our former case.

Some years ago I met with and recorded a case of convulsions arising not during delivery, but within the lying-in period, and which, from the character of the attacks, I recorded as puerperal tetanus. As the brain-changes found therein were very peculiar, I mean also to include the chief facts we observed in it as part of the material of this paper.

I am the more inclined to do so, inasmuch as I must, in the course of my remarks, embrace some notice of the recent able papers on the subject of so-called uræmic convulsions by Dr Mahomed,[1] in which he endeavours to prove that small cerebral apoplexies are one cause, at least, of eclampsia. With these introductory remarks, I proceed to read an account of the two cases.

Case I.—*Severe Puerperal Eclampsia and Albuminuria. Accouchment forcé. Death. Post-mortem. Intense Anæmia of the Collective Cerebral Centres. Engorgement of the Meninges. Apoplectic Extravasation in the right Nucleus lenticularis.*

C. M., æt. 18, residing at Leith Walk, Edinburgh, primipara, said to be in the eighth month of pregnancy, enjoyed good health till 20th July 1877. She is a well-nourished girl, of rather over average height. Face rather pale. On that and following day her attendants noticed that her eyes were somewhat swollen, and she was heard to complain of a little headache. She was, however, greatly depressed about her approaching confinement, and ashamed of her condition, as she was unmarried. She seemed also, from what information could be gathered respecting her, to have been of a nervous disposition. Mr Hanson, one of my dispensary pupils, was engaged to attend her in her confinement. On the morning of the 22d July, about 10 A.M., the patient vomited and continued to do so severely for some time. At 12 noon, while she appeared to be laughing, she was observed to pass into a convulsion fit, and after that the convulsions continued at varying intervals. After the first fit she sat up in bed and looked wildly around, but was able to put up her own hair. When spoken to she answered "Yes," but nothing more. She gradually lapsed into unconsciousness; she never complained of blindness. Mr Hanson, on being summoned to the case, and recognizing its seriousness, at once called to inform me of the matter. I was unfortunately out at the time, but Dr John Playfair went with him instead till I should return.

Dr Playfair saw the patient at 7.5 P.M., up to which time, according to the statement of the attendants, she had had ten fits. She was then completely unconscious. Breathing was heavy, almost stertorous. Respiration 28, and of a distinctly cerebral character, that is, some long and loud, others short and almost noiseless. Skin was hot and moist. Temperature 102°. Pulse 88, weak but regular, and not intermittent. Pupils slightly contracted, equal and insensible to light.

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[1] On the Pathology of Uræmia and the so-called Uræmic Convulsions,—*British Medical Journal*, 7th and 14th July 1878, pp. 11 and 42.

At 7.15 the patient went into a convulsion, which lasted about two minutes. Respiration was suspended for almost a minute, and the face and neck became extremely livid. The eyes were turned to the right and downwards, and the conjunctivæ were suffused. The mouth was *open* and the lower jaw fixed, so that there was no grinding of the teeth, and the tongue was not bitten. The arms and legs and body were in strong tonic and clonic spasm, both sides being affected alike, the convulsions possessing no one-sided character. After the fit the pulse was noticed to be 92, and the respiration irregular and stertorous. The face soon regained its wonted pale colour.

On examination per vaginam Dr Playfair found that the outer os was about the size of a shilling-piece, or barely so large, and felt rather rigid. The vagina was secreting copiously, and the head was ascertained to present, the membranes being unruptured.

Dr Playfair sent Mr Hanson immediately for me. I arrived at 8.30, but meanwhile the patient had at 7.30 a threatening of a fit, which Dr Playfair arrested by administering chloroform; after a few minutes another fit threatened, which was arrested in the same manner. At 7.40 a very severe fit ensued, after which the chloroform did not seem to exert the slightest effect. The mouth was noticed to be still kept open, the lower jaw being powerfully depressed, and there being neither protrusion nor biting of the tongue. The face and lips were intensely livid.

At 7.55 another fit threatened, but was warded off by the administration of chloroform. At 8 o'clock the patient became generally convulsed, the chloroform exerting no beneficial effect. Froth, but not blood, exuded from the mouth. The labour pains were now found to recur frequently, and regularly (one in five minutes). There were no further fits till after my arrival.

Considering the number and intensity of the fits, and seeing that the patient was threatening to collapse if not delivered soon, I judged it proper to hasten delivery by *accouchment forcé*. On drawing off a teaspoonful of urine by catheter, it was found on heating to assume the consistency of newly-made cheese.

Having brought Barnes's dilators with me, I now proceeded to dilate the os with their assistance. The smallest size only could be introduced at first. As the os was very rigid I was able to dilate the cervix very slowly.

At 9.30 a fit of terrible severity came on. It lasted for about five minutes. The spasms were violent, but the face did not assume the livid hue it had done on the former occasion. The jaw was still depressed. Breathing after the fit was quite stertorous. The pains were now tolerably strong, and recurring about every four minutes.

At 9.55 another severe fit occurred, lasting almost four minutes. At 10.10, the os being now fully the size of half-a-crown piece, I was able by gradual dilatation to get the cervix sufficiently dilated to admit of my hand slowly passing it, and seizing hold of the child's left knee, effected version, but with considerable difficulty, as, after the leg was brought down, the head, which presented the vertex, occiput to the left and anteriorly, did not readily recede from the pelvic brim, owing to the oblique shape which the uterus by this time had assumed. After practising Sigmund's double manipulation, however, I got the head pushed up and the breech safely brought down and lodged in the brim, after which delivery was easily completed. The child was small, of the male sex, and was still-born. But after I had practised artificial dilatation of its lungs by blowing air into them by means of a catheter, and had for a time employed Schultze's and Sylvester's methods for the maintenance of artificial respiration, as well as other means, the child came round, breathed, and cried.

The placenta was separated and expelled spontaneously. There was no post-partum hæmorrhage.

A slight fit occurred immediately after delivery. The pulse was now 92; respiration 22, still irregular, but not so stertorous. Dr Playfair and I shortly afterwards left the patient, Mr Hanson remaining by her for some time.

At 11.10 the patient had a convulsion, which lasted ten minutes. Pulse during the time was weak.

At 11.30 another that lasted five minutes.

At 11.45 twenty grains of chloral were administered. This had been ordered to be repeated every four hours. The temperature was noted to be 103°·5, pulse 120.

From 11.45–12.45.—Three slight convulsions. The patient was then left by Mr Hanson, she having fallen asleep, temperature 104°, pulse 120.

At 4.30 A.M. Mr Hanson again saw his patient. The attendants stated that the convulsions had recurred every five minutes for the last two hours. That three of them had been very severe, and affected one side only.

During Mr Hanson's stay at this time, the patient had one very violent convulsion, which lasted two minutes, but both sides of the body were affected. Temperature now 104°. Pulse 100, but very feeble. Skin soaked with perspiration. Patient cannot swallow.

At 10 A.M. temperature 104°. Respirations 52. Pulse almost imperceptible. The patient has had no fit since 5 A.M.

One and a half ounces of dark smoky-coloured urine were drawn off, which on examination was found, like the first specimen, to become semi-solid on heating, and to contain numerous tube casts. The patient can now swallow. Brandy ordered to be freely administered.

At 12 noon temperature was 104°. Pulse imperceptible. Patient continues quite unconscious. At 8.30 P.M. temperature 103°·5; and at 10.30 P.M. the patient died.

A *post-mortem* examination was allowed, and was performed by

Mr Hamilton twenty-two hours after death. The following is the result of it:—

Body well nourished. Post-mortem rigidity not well marked. Lips livid and covered with some white mucus. Some frothy bloody stuff exudes from the mouth. Pupils semi-dilated. Mammæ well developed, the areola being well pronounced. The uterus extends to about midway between the symphysis pubis and the umbilicus. Slight œdema of the lower part of the chest. None of any other part of the body.

Head.—Dura mater congested. A quantity of capillary congestion present. Longitudinal sinuses *engorged* with blood. Vessels of surface of pia mater extremely congested, both large and small capillaries being seen to be enormously distended with extremely dark blood. No adhesion among the membranes. No effusion on the surface of the pia mater, everything being normal except the excessive congestion. Cerebral convolutions imperfectly developed, but not specially flattened. Membranes at the base peculiarly healthy. The vessels there are not much congested. The medulla and pons seem unnaturally pale on outward inspection. The large vessels appear perfectly healthy.

The corpus callosum is extremely pale and anæmic, so likewise is the fornix.

The cerebral convolutions when cut into present no capillary injection, no extravasation. The large vessels contain blood, but are otherwise apparently perfectly healthy and normal.

The left corpus striatum appears peculiarly anæmic.

At the anterior portion of the right corpus striatum, where it dips down to form the nucleus lenticularis, there is a dusky red spot, about the size of a pea or a small bean, in which are seen a number of apparently punctiform hæmorrhages. Otherwise the right corpus striatum is as the left.

The choroid plexuses are anæmic. The veins over the right optic thalamus are deeply congested. Both optic thalami are markedly anæmic. The pons varolii is extraordinarily anæmic. So also is the medulla oblongata. The cerebellum is apparently healthy.

The crura cerebri are also anæmic. There is no fluid in any of the ventricles. The fourth ventricle seems longer than usual, and its floor very anæmic.

The vessels of the meninges of the cord are somewhat congested. The cord itself is extremely anæmic.

Chest.—Lungs are congested, œdematous, and puffy. The heart is about normal in size, but is noticed to bulge decidedly to the left. Both ventricles were firmly contracted, especially the left. The valves and endocardium were healthy. On subsequent more careful examination the heart was found to weigh 9½ ounces. The left ventricle was discovered to be decidedly hypertrophied—the thickest part of its wall measured ¾ inch. The right ventricle was very slightly hypertrophied.

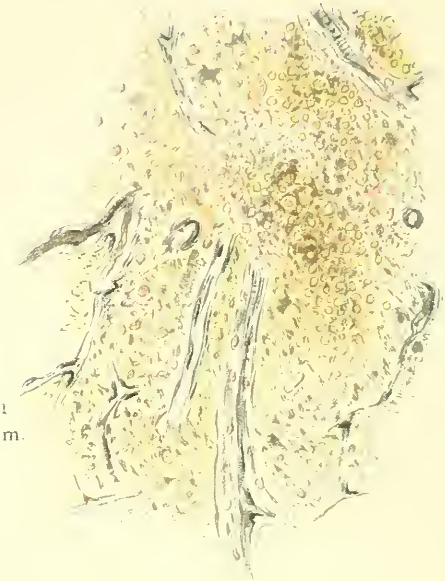

FIG 1.

Hemorrhagic spot in right Corpus Striatum.

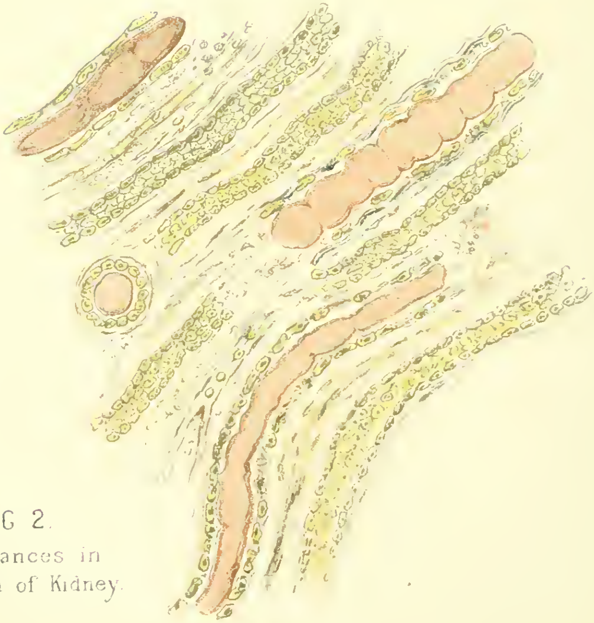

FIG 2.

Appearances in Medulla of Kidney.

Abdomen.—Omentum covers the upper two-thirds of the abdominal cavity. The uterus lies exposed in front, the small intestines lying arranged around its upper border, but not covering it to any great extent.

The liver is fatty in certain patches, congested, and containing an excessive quantity of blood. Spleen normal. Kidneys both large and flabby. The capsule strips easily off. Cortex pale. Medulla deeply congested. No cysts. No adhesions.

The brain and kidneys were taken away for further examination under the microscope. The following is Mr Hamilton's report of what he found regarding them. Before reading it, I should wish to state that no words of mine can adequately express my sense of obligation and gratitude to him for the trouble and pains he has taken with the cases.

Nervous Centres.—The nervous centres were carefully hardened and afterwards thoroughly and systematically examined. The hardening was conducted chiefly by placing the parts in a mixture of Müller's fluid and spirit, with the subsequent use of a weak solution of ammonium bichromate. The examination was commenced in the cerebral convolutions, and different means were adopted for the purpose of bringing out the structural elements.

It was found that the "Dammar-lac method," whereby the preparation was rendered half transparent, was the most serviceable. Nothing of any great note was observed in the cerebral convolutions further than the most marked anæmia.

The whole of the smaller-sized arteries and veins, and the capillaries, without exception, were totally empty, unless where here and there they contained a stray leucocyte. The lumina of the small arteries seemed *small*, as if the vessels had been in a state of contraction. But otherwise the whole of the cerebral convolutions seemed normal, the nerve elements and neuroglia corpuscles having evidently undergone no change. A similar anæmic condition, but even, if possible, more marked, was seen in the cerebellum. But its structure otherwise was also quite normal. The small spot of a reddish colour seen in the nucleus lenticularis was specially set apart, and examined with the greatest care.

A representation of it is given in Fig. 1, where it will be seen that a small hæmorrhage had been the cause of the discoloration. It was not sharply circumscribed, the colouring matter having left the effused blood corpuscles, and stained the neighbouring brain substance. The vessels at this particular spot were peculiarly abundant, and it will be noticed that they are almost totally devoid of blood corpuscles, and in some cases irregularly contracted. The brain substance in the vicinity of this punctiform apoplexy seemed to be considerably disorganized, but no changes of an inflammatory nature were noticed. A slight amount of blood was seen in the adventitious space of one small artery, and in others there were what appeared to be a few wandered leucocytes in the same situation. On examining the upper level of the medulla oblongata nothing further than the above-named anæmia was revealed. But a little further down towards the level of the middle parts of the corpora olivaria, the vessels seemed peculiarly prominent and abundant. In the corpora olivaria they formed a most beautiful plexus, but were all totally devoid of any coloured blood corpuscles, although some of them contained a leucocyte here and there. At the same level, in the region between the two corpora olivaria, a further change was visible. This consisted in a deposit of large numbers of leucocytes in a somewhat peculiar manner. They were most abundant immediately around the capillary vessels, and were arranged in little groups of five or six, while at a little distance from these vessels they ran in line, and also formed little rounded groups. The vessels here also seemed to contain in some places a considerable number of the same bodies, and they were seen protruding from the outer aspect of the capillary wall, and then becoming detached, apparently passing into the tissues.

The appearance was chiefly noticed in this region—between the corpora olivaria — but not to any great extent in the corpora olivaria themselves. In the cervical region of the cord the vessels contained a few coloured corpuscles, and in some places exudation of leucocytes had apparently occurred to a slight extent.

The Kidneys.—The kidneys were likewise carefully examined, and the appearances which were found seem to me to be quite different from anything else I have ever seen in acute renal disease. Judging from the naked-eye appearances, we expected that parenchymatous inflammation of the tubular epithelium in the cortex passing into a state of fatty degeneration would be revealed. The first glance at a section of the organ, however, showed conclusively that this was not the case, and that the lesion was not an ordinary parenchymatous inflammation. On the contrary, it seemed as if the epithelium cells lining the convoluted tubules, in place of being swollen and granular, were peculiarly small, and the nuclei abnormally distinct. To convey as clear an impression as possible of the appearances we shall commence the description with the capsule of the organ, and proceed inwards.

The capsule seemed quite normal, and its fibrous attachments neither increased in number nor in thickness. The convoluted tubules immediately underlying this were very wide, their lumina about twice as large as in the normal organ, and the epithelium lining them very distinct. The individual epithelial cells were much more defined than they usually are ; their nuclei abnormally prominent. In a great many of the tubules these were the only changes present ; but in many of the others something further was observed. This consisted in the development within the epithelial periplast of a minute drop of a clear homogeneous substance, which, after increasing in size, burst through the cell substance or into the uriniferous tubule. Similar drops were discharged into the tubule from neighbouring cells, and finally these ran together and formed one large globule. In tracing this globule downwards into the medulla it was found to increase in size to an enormous extent, apparently by coalescing with similar globules, and eventually to form a long hyaline cast distending the tubule to twice or thrice its original calibre. The straight tubes in the medulla were in great part choked up with this substance, in some places universally so, whilst in others only every second or third tubule was so occluded. The appearance in the straight tubules is represented in figure 2, where the homogeneous appearance of this tube cast is evident. The substance was stained deeply and readily by even weak solutions of carmine. In no instance was the formation of this material in the manner above described observed in the epithelium of the straight tubules. It appeared to arise entirely from the convoluted tubules in the cortex, and to merely pass downwards mechanically into the medulla. It is not within my recollection that I have ever seen anything like this in an acute case without the presence of old-standing interstitial nephritis. The foreign substance in the tubules was exactly like what is usually designated "colloid," as met with in the tubules in chronic interstitial nephritis, in the thyroid gland, in œdematous ovarian tumours, and in colloid degeneration of cancerous tumours. It is apparently always the product of a true degeneration of epithelial cells, and is extremely apt to accumulate in shut cavities lined by epithelium, such as the thyroid vesicles, obliterated uriniferous tubes, and ovarian cysts.

It is apparently similar to what is sometimes called a fibrinous tube cast. But how it ever came to be so designated seems strange, as in its appearance, mode of formation, and behaviour with reagents, it is totally different. There seems to me very little doubt but it is the same material which occurs in ordinary colloid degeneration, and it would appear to arise from a peculiar transformation of the epithelial periplast.

The bloodvessels were little if at all altered, and there was no inflammatory exudation between the tubules. The sole change was apparently the degeneration of the tubular epithelium above described.

CASE II.—*Delivery Natural. Placenta Retained for Two Hours; meanwhile four severe Eclampsic Seizures occurred. Post-partum Hæmorrhage. Death. Post-mortem examination. General Anæmia, but especially of the Cerebral Centres. Congestion of the Cerebral Meninges. Kidneys in the Second Stage of Interstitial Nephritis.*

Mrs M., æt. 37, residing at Plewlands, near Edinburgh, was confined of her third child on the 18th of January 1878.

The labour-pains began about 10 A.M., and were pretty steady and severe from the first, recurring at intervals of not more than five minutes.

There was throughout the delivery a great deal of hiccup and yawning present, from which, moreover, the patient had been observed to suffer greatly for three days previously. Her look also was peculiar, and her eyes very staring. She maintained a very reticent demeanour, and indeed never spoke, unless interrogated, from the time she was put to bed till the birth of the child, which took place at 2.35 P.M. At this time her extremities felt cold, and on being asked if she felt pain, she replied in the negative; but at the same time stated that she had a strange feeling over her heart, and that there were peculiar noises in her ears. Subsequently to this, when spoken to, she took no notice whatever of what was said to her. The after-birth did not come away spontaneously, and there was no medical man to be got for some time to remove it. The patient was covered up from the cold, and a little whisky-toddy was administered to her.

Meanwhile, there was little or any hæmorrhage perceived. At 2.45, there being still no bleeding, the patient was seized with a severe general convulsive fit. The tongue was protruded during it and bitten. The head was also turned strongly to the left. Three similar fits followed this one before four o'clock. During the interval between the attacks there was stertorous breathing, and also some yawning and hiccuping.

About four the patient became quiet; but there was now pretty free hæmorrhage, especially when the cord was pulled upon, or the belly squeezed.

Dr Ronaldson and Mr M'Callum arrived about 4.40, when the former removed the placenta from the uterus.

The patient died at 5 P.M.

Post-mortem examination made by Mr Hamilton, forty-seven hours after death. Lips extremely anæmic, pupils dilated and equally so. Post-mortem lividity extremely ill-marked, rigidity slight. Lineæ albicantes seen in abdomen. Abdominal walls flaccid. Slight œdema of the lower limbs and also of the hands. On cutting into the abdominal wall almost no blood visible. Large amount of fat anteriorly. Lower border of the omentum on a level with a transverse line passing an inch below the umbilicus. The uterus occupies the middle of the upper part of the pelvis, the fundus being exactly midway between the upper edge of the symphysis and the umbilicus, in this case three inches from either point. Small intestine pushed upwards. Left ovary situated above the brim along with its corresponding Fallopian tube. The right ovary again was in the hollow of the pelvis. The fold of Douglas was quite empty. The right ovarian vein throughout its lower half was enormously distended with air or gas, being about the thickness of the thumb, and containing very little blood. Left vein also somewhat large, but contained no air.

Chest.—Lungs extremely pale. Do not readily collapse. The right lung the more prominent; both lungs non-adherent. The left œdematous, and slightly congested towards the centre. The right anæmic, at upper lobe somewhat congested, and extremely œdematous at the lower part.

Heart.—The right side contains almost no blood, but when pressed produces a gurgling noise as if from the presence of air. Left side firmer. On that side no gurgling is elicited. The blood is extremely fluid.

Two milk spots are visible on its surface, one anteriorly, and one to the right side.

The organ as a whole seems large. Aortic valves are competent. Mitral valve thickened at edges, and it admits two fingers. Left ventricle at its thickest part measures $\frac{1}{4}$–$\frac{1}{2}$ inch.

The tricuspid valve almost admits five fingers.

The whole tissue of the heart is anæmic and pale, but apparently not fatty.

Liver pale, and its substance anæmic. Spleen pulpy and also anæmic.

Left Kidney.—Anæmic and pale. The capsule strips off easily in certain parts, in others is slightly adherent and leaves a pale granular surface, with here and there congested venous radicles. A number of isolated roundish, pale nodules, of the size of pinheads, having when cut into a somewhat elongated shape, are seen on the surface of the cortex.

The cortex is diminished in thickness, being only about 1-5th of the thickness of the kidney. It is extremely pale, with congested vessels running through it. Medulla also pale, with congested vasa recta, and extremely flabby. The right kidney in an exactly similar condition.

Head.—Dura mater apparently healthy. The vessels of the pia mater congested. Considerable amount of subarachnoid fluid on the surface of the brain. No fluid at the base of the brain. Substance of the pons and medulla pale, but the vessels over them congested.

The corpus callosum, substance of the right and left hemispheres, as also of the fornix, corpora striata, and optic thalami extremely pale and anæmic, showing almost no puncta cruenta. The pons and medulla when cut into were also seen to be anæmic, with here and there a punctum cruentum.

My observations in the sequel of this paper in reference to the sections above described must be regarded as based almost exclusively upon the facts observed in the former of the two cases. That one was a typical example of the lesion whose pathology is under consideration; and besides, the brain and kidneys have been subjected to an exhaustive examination. The second case can only be looked upon as, on the whole, so far as the brain changes were developed, corroborative of the facts observed so pronouncedly in the first, and nothing more. Thus, it will be seen that although there was scarcely a drop of red blood in the rest of the body, the cerebral meninges were congested, whilst, at the same time, the central parts of the brain showed an equally marked anæmia as in our first case.

The doubts at first suggested to our minds as to whether this was a case of true puerperal convulsions, and not rather one of acute anæmia with general convulsions, were completely set at rest by the intelligent statement of the nurse, and by the detection in the kidney of chronic interstitial nephritis. The latter condition, which was previously unknown to exist, is of itself quite sufficient to account for the fits. I therefore believe that, in this patient's case, we have no reasonable grounds for doubting that we had genuine puerperal convulsions, followed by post-partum hæmorrhage. This complication, according to many authors, *e.g.*, Tyler Smith and Spiegelberg, is exceedingly apt to arise, though I am not able to say that my own practice would lead me to that conclusion.

But, before I commence to grapple with the main problem in hand, let me first recapitulate the chief peculiarities in this extremely interesting case. And, perhaps, it may be allowed to state, that the condition of the brain was quite different from what either Mr Hamilton or myself expected to find.

I was specially on the hunt for sand-grain apoplexies in the cerebral tissue in consequence of having had my mind previously directed in that line from my case of so-called tetanus. It will be noticed that it was a little time before we could thoroughly realize the condition of absolute anæmia presented by the cerebral centres. This is made evident on reference to Mr Hamilton's report by the progressive emphasis with which he dictated the statements regarding the appearances. These I took down *verbatim et literatim* at the time, and purposely retained them in their original form in order to bring out this fact. The circumstance that the appearances came upon us unexpectedly, indeed, as a surprise, appears to me to afford additional and important evidence, if such were needed, of the truthfulness of the description we have given of the facts observed. Now these may be briefly stated to have been—

In the Brain and Cord,—

1*st.* Intense congestion in the meninges and engorgement of the venous sinuses on the inner aspect of the cranium and spinal canal.

2*d.* Intense anæmia of the deeper portions of the brain, and especially of the collective motor centres, including the cord.

3*d.* Complete absence of any evidence of this anæmia having been preceded by cerebral œdema, as the Traube-Rosenstein theory of puerperal convulsions predicates.

4*th.* In the portion of the medulla oblongata between and down to the level of the middle portions of the olivary bodies, and also in the olivary bodies themselves, there were discovered vascular and extravascular changes indicative of commencing inflammatory change.

5th. There was observed a limited extravasation of blood in the anterior portion of the right corpus striatum where it dips down to form the nucleus lenticularis.

6th. It is at the same time to be noticed that all those changes occurred, although the cerebral bloodvessels, and, indeed, the entire vascular system, was found to be peculiarly healthy.

In the Kidneys,—

7th. The naked-eye appearances of ordinary parenchymatous nephritis were found; but, on microscopic examination, something entirely different was detected. This consisted of degeneration of the epithelial cells of a certain proportion of the tubules in the circumferential aspects of the cortex. The degeneration appeared to be of a colloid nature. The products of these degenerated cells ran down and blocked up, more or less completely, the other convoluted and straight tubules, so as to render them functionally useless, although their tissues were not diseased.

8th. Throughout the body the general appearances, with the exceptions above stated, coincided with those ordinarily found when death results from puerperal eclampsia. Thus the liver and lungs, and other internal viscera, were seen to be markedly congested, etc.

Such being the peculiar appearances found in this post-mortem, what deductions do they warrant us to draw in respect to the important problem enunciated as the theme of this paper, it being granted that the second case, so far as the changes were developed, may be held as corroborating the cerebral phenomena detected in the first case?

In the first place, it is quite conceivable that some might argue that the brain-changes were caused by the fits, and were not a result of them; that, in fact, a fit of great severity had so profoundly modified the cerebral circulation that it was never restored to the normal condition.

But I can hardly imagine this seriously maintained by any one. For, in the first place, the changes were too rigidly limited and too emphatically pronounced to be the result merely of the temporary interference with brain-circulation that a fit could produce. Then, again, had the patient died in a convulsion, a certain amount of value would doubtless have been assignable to such a suggestion. But the patient had had no fit for seventeen hours before death, so that it is quite impossible to conceive that the cerebral disturbance originating in the fits should have remained so long, if the mechanical conditions connected with the convulsions had been the sole factors determining the changes in the brain-circulation.

It might also be maintained that the alterations found were merely a result of the special mode of death—a terminal symptom of the final struggle for existence.

As the patient died quietly, and apparently from asthenia, it appears to me that this suggestion is really not worthy of being seriously discussed. It is therefore, I think, almost beyond question that the cerebral appearances were established some time before death, and that they were quite different from anything that we could expect as resulting from a convulsion.

If, therefore, the cerebral appearances were not caused by the convulsions, it seems to me only rational to assume that they were, at least, one important, possibly the most important, set of factors in the production of the convulsions,—that, indeed, they were the proximate cause of the fits. It becomes, accordingly, extremely interesting to know whether we are able to offer any reasonable explanation of the origin of those cerebral changes.

The most striking alterations, of course, and those I think which we are entitled to regard as the most essential to the eclampsia, are—(1*st.*) The extreme anæmia of the collective cerebro-spinal centres; and, (2*d.*) The coincident equally extreme meningeal engorgement.

These two conditions seem to me, however, to be complementary, the latter being the direct result of the former. My explanation of this mutual relation is as follows:—The sudden *anæmia* of the deeper portions of the brain would necessarily lead to loss of bulk or shrinking in those parts of the organ. But, in consequence of the special conditions under which the cerebral circulation is maintained, the cranial cavity must necessarily be always full. This would necessitate the retention in the surface of the brain of venous blood to occupy a space corresponding with the loss of volume resulting from the deep anæmia. In this way, it appears to me that the main congestive changes in the meninges can be accounted for. The arterial engorgement on the surface of the pia mater will not admit, however, of being so explained. That condition is indicative of the presence of a state of the arteries on the surface apparently the opposite of that assumed to be present in the centre of the brain.

The chief burden of this contribution seems to me, therefore, to be to explain, if possible, in what manner this extraordinary anæmia of the cerebral centres arose. For, after the exhaustive researches of Tenner[1] and Kussmaul upon this subject, it may be taken for granted that sudden anæmia of the cerebral centres, such as was detected here, is, at least, one cause sufficient to induce general convulsions.

It is well known that many other causes may produce this as a result. But if it should be found, and these two cases point in this direction, that case after case of puerperal eclampsia presented anæmia of the cerebral centres as a constant accompaniment, and if, at the same time, on other grounds, such a condition is allowed to be capable of inducing general convulsions such as we see in eclampsia, it does appear to me that we are most probably on the road towards a solution of the essential pathology of this terrible lesion.

[1] Kussmaul and Tenner *On Convulsions.* New Sydenham Society, 1859.

Assuming, therefore, that this extreme anæmia of the cerebral motor centres was the proximate cause of the eclampsia in these cases, how did it arise? What were the conditions that led to its development?

We turn instinctively to the beautiful theory of Traube as applied to puerperal convulsions by Rosenstein,[1] and which is ordinarily known as the Traube-Rosenstein theory.

According to this view, eclampsia, or so-called uræmic convulsions, occurring in the pregnant or puerperal condition, are not occasioned by the presence of any poison in the blood, but result from cerebral anæmia, which, again, is a consequence of cerebral œdema. The explanation of how this condition is brought about is as follows:—The blood of pregnant women is normally increased in quantity, but of defective quality—being, in fact, too watery. It is, moreover, propelled under increased tension, inasmuch as the left ventricle of the heart hypertrophies during pregnancy, especially during its latter months. During the labour, particularly during the down-bearing pains, the already abnormally exalted tension is very greatly increased. If, now, to those physiological conditions kidney lesion is superadded with its deteriorating effects upon the blood and its influence in the development of cardiac hypertrophy, we have produced a state of matters that presents us with a large amount of blood of defective quality circulating in vessels subjected to a very high tension.

The result of this, according to the Traube-Rosenstein theory, is that we have first produced cerebral hyperæmia. This leads to effusion of serum from the watery blood into the cerebral tissues. So soon as the œdema has thus been produced, it reacts from the incompressibility of the fluid composing it so as to prevent the dilatation of the cerebral vessels traversing the œdematous areas, and anæmia is the result. If this occurs in the cerebrum, according to our authors, we have coma; but if it arises in the motor centres, convulsions are the result.

But when we examine for traces of cerebral œdema in our first and most typical case, it is nowhere to be found. It will be noticed, on reference to the report of the sectio, that the cerebral ventricles were found to be quite empty of fluid, which could not have been the case had there been œdema of the cerebral centres, and there was no evidence otherwise of cerebral œdema. In the second case, it is observed that there was an excess of subarachnoid fluid on the cerebral surface. But this appears to have been of the nature of a complementary arrangement for the contraction in bulk arising out of the sudden anæmia in the central parts of the brain. Also, there was no evidence of antecedent general dropsy in either case. In the first case the patient was strong and healthy, and never complained till two days or so before she was struck down with this illness. It is true her heart had the normal hypertrophy, which we know accompanies pregnancy; and, moreover, her kidneys were suddenly rendered functionally almost entirely useless. There was thus abundant reason to assume specially high tension when the labour came on. But the eclampsic attacks appeared before the pains of labour were fully established; and, moreover, the cerebral changes were not such as we could expect simple tension to have effected.

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[1] Rosenstein, *Die Pathologie und Therapie der Nierenkrankheiten*, 1870.

On these grounds, I am reluctantly compelled to confess that it seems impossible to me to apply the Traube-Rosenstein theory, beautifully fascinating though it be, to the explanation of the main specialty in these cases.

Bartels[1] has expressed similar difficulty in reference to the cerebral appearances of non-puerperal patients dying under his care from so-called uræmic convulsions. He, however, with much truth, touches on the difficulty experienced by the physician in determining by ordinary inspection the œdema existing in the cerebral tissues, and states, at the same time, that by the most careful inspection by the naked eye, he failed to discover such a degree of wateriness as would agree with Traube's theory.

The record given by him of one interesting patient that died from the second of two epileptiform seizures, is extremely interesting from the point of view from which we are now regarding this problem. This refers to a young woman, aged 22, who suffered from chronic interstitial nephritis, with marked hypertrophy of the left side of the heart. Shortly before admission, she had had a severe hæmoptysis, and was reduced to a condition of extreme anasarca and anæmia. This deplorable state was further made worse during her short stay in hospital previously to her death, by her inability to take anything except fluids, by much vomiting, and finally, by a blood-letting of about four ounces when she was in the first fit. After recovering from this seizure, she took a good draught of water, and five hours afterwards a second fit came on, for which she was again being bled, when she died.

If there ever had been conditions likely to establish anæmia of the cerebral centres, as a result of primary œdema, such a case was that one. But I cannot but think I give a fair idea of the post-mortem appearances as given by Bartels in this case, when I state that the cerebral tissues presented appearances not at all unlike those detected by us in our cases, only that the peripheral congestion was less marked than in our first case, apparently because there was extremely little red blood left in the poor woman's body at the time of her death.

I am therefore driven to the conclusion that the cerebral anæmia in those cases of mine was not the result of over-distension of smaller arteries and capillaries, but that it followed from spasm of the arteries in the anæmic areas, however this condition may have been brought about.

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[1] *Handbuch der Krankheiten des Harnapparates*, Erste Hälfte, s. 120, Ziemssen, bd. ix. a.

But, while rejecting the Traube-Rosenstein theory as not applicable to the explanation of the phenomena, I cannot help confessing that I am greatly at a loss how to account for them. It appears necessary for us to impress into our service a great many facts brought out in the examination, before we are in a position to adequately explain the conditions.

In the first place, I would draw attention to the fact that is abundantly proved from many phenomena connected with pregnancy, and especially by the effects that pregnancy produces upon cardiac disease, when the latter is found to co-exist with it, viz., that pregnancy seriously modifies the condition of the vascular system generally, alters its tension during the latter months, and makes it in some way very specially liable to derangement and disease.

The same is also equally true of disturbances in the domain of the nervous system, as evidenced by the great frequency with which nervous affections long latent are called into activity during a pregnancy, and from the frequency with which mania and other nervous diseases follow in the wake of a confinement.

These facts have been of late elucidated with characteristic ability by Dr Barnes[1] on more than one occasion, so that I need not go further into the details regarding them.

In support of the first statement, I may be allowed to refer to my papers on the "Bearings of Chronic Disease of the Heart upon Pregnancy and Parturition," published in the *Obstetrical Journal* for Great Britain and Ireland during 1877.

But the most peculiar and, I cannot help thinking, the most active component of all the factors that co-operated in the production of the intense cerebral anæmia, seems to me to have been the sub-inflammatory changes described by Mr Hamilton, as affecting the part of the medulla oblongata about the level of the olivary bodies, and intermediate between these structures. These structural changes had advanced not only to capillary distension, but actually also to the escape of leucocytes into the extra-vascular tissues, so as to evince unmistakably the existence of commencing inflammatory action. In the olivary bodies themselves, it will be noticed that the only change observable was special prominence of the vascular plexuses.

In reference to the bearing of this condition of the medulla oblongata upon the subject in hand, let me here refer to the well-known observations of Owsjannikow,[2] to the effect that in the rabbit the vaso-motor centre of the whole body is restricted to a space in the medulla oblongata, limited inferiorly by a point 4 millimetres above the extreme point of the calamus scriptorius, and superiorly by a point 1–2 millimetres behind the posterior border of the corpora quadrigemina, the centre itself being about 4 millimetres in extent. According to the same author, this centre is bilateral, being symmetrically disposed on either side of the mesial line, whilst its position, measuring from before backwards, is nearer the anterior surface of the medulla than the floor of the fourth ventricle.

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[1] "Pregnancy and General Pathology," *Transactions of American Gynecological Society*, vol. i. p. 144.

[2] Ludwig's *Arbeiten*, 1871, p. 21.

If now we take the measurements as given for the rabbit, and apply them merely relatively to the human medulla, it appears that if we divide the line running from the posterior edge of the corpora quadrigemina to the apex of the calamus scriptorius into ten equal parts, the vaso-motor centre would be situated in the second and third fifths of this distance, measuring from above downwards. That measurement would take us pretty nearly to the middle third of the distance, but with a slight inclination upwards more than downwards.

As this localization of the vaso-motor centres given by Owsjannikow would bring them very much into the space that was found altered, it appears to me that these centres must have been involved in the sub-inflammatory changes observed by Mr Hamilton.

If anything, the position of the sub-inflammatory action was placed rather low down. But it must be remembered that even if that were so, and if the irritative process had not involved the whole of the centres, yet the collective vaso-motor fibres must have passed through the affected space, from the proximity in the downward direction of these changes to the centres. It is a known fact that the efferent fibres from these centres pass all downwards at first.

I have further to draw attention to a fact that appears to me to show that this sub-inflammatory change in the medulla acted as an irritant to the nerve centres. It will be noticed that our first case of eclampsia has an important peculiarity in its symptomatology, namely, that during the attacks the lower jaw was powerfully depressed. It is almost always found in such cases that the tongue is not only protruded but badly bitten, in consequence of the lower jaw being powerfully shut. But it is noted again and again in this patient's case, that whereas the muscles generally, including those of the head and face, were thrown into a condition of tonic and clonic spasms, the lower jaw was observed to be powerfully depressed.

I read this as indicating that the centres of the hypoglossal, which supplies the depressors of the lower jaw and the larynx, had been within the range of the sub-inflammatory irritation. This nerve, as also the vagus and the glossopharyngeal, takes origin about the level of the middle third of the olivary bodies, but in the floor of the fourth ventricle. Further, the respiratory action was noticed from the first to be affected specially—indicating participation of the vagus in the irritative changes.

The masseters, on the other hand, do not seem to have acted so powerfully as usual, because it would appear that the main irritation in the medulla had been operating in a situation somewhat below the origin of the motor roots of the fifth pair of nerves that supply these muscles with motor fibres.

Then the extraordinary manner in which the tubules of the kidneys were choked up by the rapid accumulation of the colloid matter, resulting from the degeneration of certain of the epithelial cells, at once arrested their functions as blood depurators, and as excretors of water. In consequence, the blood would not only tend to increase abnormally in amount, but to rapidly depreciate in quality, so that it would not only be injurious by its bulk, but would also act as an irritant, through the instrumentality of the excrementitious materials retained in it.

Dr George Johnson[1] has laboured to show that under such conditions the smaller arteries contract, and refuse, so far as in them lies, to allow such an objectionable material to pass into the tissues. He refers this to the regulating action of the vaso-motor nerves, but he does not explain how this arises.

If I am correct in my reasoning, it would seem that the nerve cells of the vaso-motor centres were most probably directly irritated by the impure blood circulating through the centres, and in consequence induced by excess of action an exalted degree of inhibition on the collective arterial system. As a result of this, the blood would tend to leave the arterial system, and to accumulate in the veins. There would be pallor and rather a slow pulse, which, however, would feel weak as the radial would necessarily be small. This state of matters is not contraindicated by the general appearance of the patient in the first case, for it is noted that between the attacks she was pale, and that the pulse was small. The rate, moreover, considering the temperature and the great exhaustion, was, on the whole, slow, for it is noted, after the fits had been well established, as 88, though the temperature was as high as 102°, and even after delivery it was only 92°. It ultimately rose to 120, apparently in consequence of the exhaustion following the labour and the fits.

I have assumed that the blood charged with the collective excrementitious matters, which it is the duty of the kidney to remove, acted as a direct stimulant and irritant to the vaso-motor centres, and thus led to general arterial contraction acting centrifugally. It is, however, quite possible to conceive that the poisoned blood should have acted throughout the tissues upon the afferent fibres of the vaso-motor system, and thereby have originated a stimulus which was conducted from the tissues generally to the vaso-motor centres, whence it was reflexly communicated to the arteries throughout the body. In that case the subinflammatory changes discovered in and about the vaso-motor centres would have resulted from prolonged and severe reflex stimulation, and not from the local action of an impure blood upon the centre itself.

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[1] *Lectures on Bright's Disease*, p. 72, London, 1873.

It is possible that the results observed may have been partly occasioned by the one of these conditions and partly by the other, the impure blood acting as a local stimulant to the centres themselves, and also as a reflex stimulant to the afferent nerves leading to these centres from the various regions of the body.

That there did exist over-stimulation of the vaso-motor centres appears to me extremely probable, when we consider the results as to the localization of those centres obtained by Owsjannikow, and at the same time views, in the light which this knowledge gives us, the conditions above described in the part of the medulla intermediate between the upper portions of the olivary bodies.

The essential element, therefore, in the pathology of this case would seem to me to be reduced to a condition of over-action of the vaso-motor centres, from the stimulating action upon them of a blood rendered impure through retention of the collective excrementitious matters which the kidneys ought to have removed. By this over-stimulation there is produced a high degree of anæmia of the deeper cerebral regions and central portions of the cord, and coincidently a collection of the blood in the venous sinuses within the cranium and the spinal cavity, and in the meninges. This effect of defective blood-supply is at the same time aided by the peculiar conditions of the venous and blood-vascular systems conditioned by the pregnancy.

Why the anæmia produced by arterial contraction should be so marked and persistent in the deeper portions of the cerebrum and the cerebral parts of the cord, it seems very difficult to explain. It does occur to one as a partial explanation that once this state of matters had become fully established, it would be difficult for the cerebral arteries to dilate freely, so long as the central irritation continued, as the venous congestion in the periphery of the brain would tend to act as an obstruction to their dilatation; and the more so if I am correct in believing that there had been over-action of the arterial system generally, as this would lead more and more to the accumulation of the blood within the venous system under consequently ever-increasing tension, so that it would constantly become more and more difficult for the meninges to be cleared of their congestive contents under the action of the small stream of blood that the spasmodically-contracted arteries would allow to pass.

Be this as it may, I am very much confirmed in my opinion regarding the nature of the various processes at work in the production of these effects by the results obtained therapeutically from two agents that are very unlike, and yet agree in this far, that they lower the tone of the vaso-motor centres—I mean chloral and blood-letting.

I can confidently appeal to the experience of all my *confrères* who have had the opportunity to watch cases of puerperal convulsions, and who have tried both chloral and other medicaments in the treatment of eclampsia, and feel certain that they will assure me that chloral has given them by far the best results.

The older authors, long before we knew anything of chloral, obtained wonderful success from blood-letting. I have myself recorded one case where blood-letting gave excellent results. But wherein is the common bond of action? I was interested, when ransacking the literature of the vaso-motor system, to find what I think helps materially to answer this question in Foster's *Physiology*.[1] The following is the part that bears on this subject:—

"Now, if the central stump of the divided sciatica (or any other nerve containing afferent fibres) be stimulated under urari, a rise of pressure, sometimes the exact reverse of the fall caused by stimulating the depressor, is observed. The curve of the blood pressure, after a latent period, rises; it begins to rise without any change in the heart's beat, gradually reaches a maximum, and after a while slowly falls again, even though the stimulation be still kept on. So constant is this result that it has proved of great value in determining the consistence of afferent fibres in any given nerve, and even the paths of centripetal impulses through the spinal cord. If, on the other hand, the animal be under chloral instead of urari, a fall quite similar to that caused by stimulating the depressor is observed, instead of a rise. Thus, according to the condition of the vaso-motor centre, or to circumstances affecting it, the same stimulation of the same nerve may at one time produce a fall and at another a rise of blood pressure, *i.e.*, may either depress or exalt the action of the centre.

"The causes of this difference are not yet clearly worked out. Variations in respiration will not explain it. Nor can the solution be found by supposing that in urari poisoning cerebral functions are active, while in chloral poisoning they are in abeyance.

"If the brain be removed without much bleeding, subsequent stimulation of a sensory nerve under urari still gives a rise of pressure. If there be much bleeding, however, a fall is witnessed. This suggests the idea that after bleeding and under chloral the vaso-motor centre is enfeebled or exhausted, and that stimulation of the enfeebled or exhausted centre always causes depression."

Now, the effects of chloral in lowering vaso-motor action seems sufficiently to explain its therapeutic use in considerable and sustained doses in eclampsia, whilst there is no doubt about the effect of blood-letting, even to a moderate amount, in diminishing vascular tension, *i.e.*, as I take it, in depressing the action of the vaso-motor centre.

This fact, further, goes far to remove from my mind a consideration that has always weighed very much with me as a serious objection to the acceptance of the toxæmic nature of eclampsia. I mean the argument that it was difficult to understand how any substances of a poisonous nature should be present in the blood in such amount as to cause convulsions, whereas, if a small fraction of their absolute amount were removed by blood-letting, the convulsions ceased.

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[1] *A Text-Book of Physiology*, 2d edition, p. 163.

If, however, we look upon the effect of the blood-letting, not as a mere separation from the system of a few ounces of blood, but as an influence directly lowering the action of the irritated vaso-motor centre, it does seem to me that the beneficial consequences are very much more intelligible.

The temporary congestion of the face during an eclampsic seizure in no way militates against the view that there was general arterial contraction, as it is merely the result of the partial asphyxia arising during the fit in consequence of the tetanic condition of the respiratory muscles. The patients in the intervals between the attacks are observed to be pale. The accumulation of an undue proportion of blood in the venous channels throughout the body, in consequence of contraction of the arteries, would account for the congested appearances of the liver, lungs, and other internal viscera found invariably in the post-mortem examinations of patients who have succumbed to an attack of eclampsia.

It has also occurred to me that the intense headache, which patients so frequently complain of when an attack of eclampsia is imminent, may possibly result from the congested condition of the meningeal membranes, as well as from the dragging that would arise upon the cerebral membranes, from the shrinking centripetally of the brain substance consequent upon the loss of volume in the more central portions of the organ, which the acute anæmia would necessarily induce. The flashing of light, and other disturbances of vision, may also be referred to the central circulatory changes taking place in the brain.

It will thus appear that I accept the old toxæmic theory as after all the most probable starting-point in cases of puerperal eclampsia; but that, by reference to exact anatomical observations, I am driven to the conclusion that the poison acts by irritation of the great vaso-motor centres for the body in the medulla oblongata. My conclusions, therefore, merely tend to localize an effect that was previously assumed to act somehow, without any attempt being made to determine very particularly its exact mode of action.

When I leave the consideration of the brain changes, and proceed to remark upon the cause of the peculiar alterations found to exist in the renal epithelium, I feel unable to suggest any likely ætiology, except by assuming that it resulted from some special influence exerted by the pregnant condition. This is the view that Bartels[1] is led to entertain regarding the cause of the frequent attacks of parenchymatous nephritis, which he believes is the form of the renal disease specially associated with pregnancy. All attempts to explain the very frequent occurrence of renal disease in connexion with pregnancy on purely mechanical grounds, such as pressure, etc., must be allowed to have proved in a great measure failures. We, however, see a great disposition to degenerative changes in the epithelial cells of the liver in connexion with pregnancy, and yet

[1] *Loc. cit.*, p. 277.

we are unable, with any degree of certainty, to explain the ætiology of these alterations, except by referring them to some occult influence exerted by the pregnancy, whether this arises in the condition of the nervous system, the blood and bloodvessels, or in the other tissues. The view that what is usually called the parenchymatous nephritis of pregnancy, is not a nephritis at all, but a degeneration of certain renal epithelium, establishes, it appears to me, a complete analogy between the renal condition in eclampsia and the hepatic condition in acute yellow atrophy, and further tends to the conviction that they may both be referable to a similar cause.

Some observations by Virchow, quoted by Bartels, p. 282, *loc. cit.*, point so clearly in this direction that I cannot forbear from translating them at length. "In both organs (the kidneys and the liver), and it is a question whether we should not have added the spleen also, the same parenchymatous swellings present themselves, conditioned by the taking up of a granular, cloudy, seemingly albuminous mass, into the interior of the gland cells, whereby the organ becomes larger, loses in consistence, and after separation of the capsule seems more flabby. These changes frequently assume the inflammatory character, and one can at once describe them as parenchymatous nephritis and hepatitis. At other times their inflammatory nature is less striking, and it may then be sufficient to speak of an albuminous infiltration. In both cases the secreting power of the organs appears to suffer, and further investigation only will show which exerts the greatest influence."

Bartels, from his observations on this note, evidently thinks that the two conditions referred to by Virchow are only different stages of the same disorder. But from the very peculiar character of the epithelial alterations noticed in our first case by Mr Hamilton, it seems as if the epithelial degenerations detected were something quite different from the first stage of an ordinary parenchymatous nephritis. Besides, our case was one that it would almost be impossible to surpass in regard to severity. So that, if we are to consider it as being only the first stage of the disorder, it seems difficult to imagine what the advanced stage could be.

Moreover, the fact that the renal condition is a degeneration, and not a true nephritis, explains also a peculiarity of the kidney affection when it arises in connexion with pregnancy, viz., why it is found to occur without fever symptoms, such as rigor or high temperature. If it shall turn out that all cases of acute renal disease occurring in connexion with pregnancy are similar in essential characters to this one, then the absence of fever symptoms would naturally be explained by the fact that the changes taking place in the kidneys were not of a truly inflammatory nature.

Furthermore, it has always been a subject of astonishment that in cases of puerperal albuminuria, however copious the amount of albumen might be, however severe the general symptoms, and however plentiful the tube casts, so soon as delivery is effected and improvement once begun, the return to health, in the vast majority of cases, is with a rapidity and completeness quite foreign to the experience of physicians in dealing with acute nephritis traceable to other causes.

If, in the future, we are entitled to regard the renal condition as one of limited degeneration of epithelial cells in certain peripheral tubules, with consequent mechanical closing up of the rest of the tubules, as already explained, their tissues being quite healthy, it is to my mind easy to understand, that so soon as a more healthy condition was initiated within the kidneys the colloid plugs would drop out from the tubules, leaving the great bulk of the organ in a condition of health.

Turning to the small extravasation observable in the nucleus lenticularis of the right corpus striatum, and searching for an explanation that will account for it, the only feasible one that occurs to me, seems to be to assume that the long-continued spasmodic condition of the vessels in the part had exhausted their tissues so as to lead to rupture of some capillaries. There is no evidence of any commencing inflammatory change in this neighbourhood, such as was detected in the medulla oblongata, so that we cannot assume that there was any directly irritative influence at work upon the bloodvessels at this situation, and, consequently, we are compelled to seek for a cause of a non-inflammatory nature. And it appears to me not at all improbable that the condition of spasm and consequent anæmia and defective nutrition in the vessels of the brain, which it has been the main aim of this paper to identify with puerperal eclampsia, may so exhaust the retentive power of the bloodvessels as to develop small cerebral apoplexies in the brain tissues.

There certainly were no other of those sand-grain apoplexies that are found occasionally in the cerebral tissues of persons who have died of puerperal eclampsia. For these we searched with the greatest care, but without any success.

That, however, occasionally small apoplectic extravasations in the cerebral central ganglia are found there is no doubt; that they frequently occur in the meninges is referred to by many writers, such as Kiwisch, Braun, Spiegelberg, etc.

I may be allowed to mention that Dr J. Matthews Duncan informed me, several years ago, that he was present along with Dr Littlejohn at the post-mortem examination of two patients who died of puerperal eclampsia, in the structure of whose corpora striata, as well as in the adjoining parts of the brain, there were numerous minute apoplectic extravasations detected. This is referred to in my paper upon Puerperal Eclampsia, published in the *Obstetrical Journal* in 1876; and a similar state of matters is advocated as a cause of so-called uræmic convulsions by Dr Mahomed, with his distinguishing ability, in the *British Medical Journal* of 7th and 14th July of last year.

What the relation of those apoplectiform extravasations of the central portions of the brain is to the eclampsia, if they do not arise from exhaustion as above described, it is difficult to say.

It is different where apoplexies are found in the meninges. Here we clearly trace hyperæmia as a predisposing cause of extravasation. One would naturally expect to find the various apoplexies more readily in chronic cases of renal disease, in which there are usually vascular degeneration and marked cardiac hypertrophy. But as the influences, whatever they be, that tend to their development were sufficiently strong to show themselves in a case such as our first one, in which the vessels were specially healthy, it does seem to me that we are bound to admit that eclampsia is somehow closely related to their causation.

It is in cases of chronic renal disease that Dr Mahomed has found the minute apoplexies to which he refers. Whether these of themselves could be the efficient cause of the eclampsia, as suggested by Dr Mahomed, seems to me extremely doubtful, I certainly would be more inclined to believe that they were rather a result of the main lesion that caused the fits. Certainly, the minute apoplectiform patch revealed in this case could never, by any imaginary arrangement, have been the cause of these terrible convulsions.

While, however, striving to prove that the poisoned condition of the blood, resulting from arrest of renal function, may so act upon the vaso-motor system as to lead to cerebral anæmia by spasm of cerebral vessels, and thus cause puerperal eclampsia, it does not seem improbable that when the kidneys are quite sound, a certain amount of uterine irritation may so act as to induce reflex spasm of the vaso-motor centre, and cause eclampsia, as has been suggested by Cohen.[1] But many other causes may lead to similar convulsions, as is well known.

I am tempted here to refer, in closing, to an interesting case, published by me in the *Edinburgh Medical Journal* for June 1875, where the exciting cause of the convulsions, which, however, assumed a tetanic form, was intense venous congestion of the central cerebral ganglia, by occlusion of the straight sinus and venæ Galenæ by a firm thrombus.

But, after all, severe anæmia of the cerebral centres and intense venous congestion are practically the same in their effects, that is, in both cases no arterial blood gets to the brain.

The corpora striata in this case was riddled with small extravasations, the result of the venous obstruction. I have not referred to them in the earlier part of the paper, as I am convinced that the cause of this lesion was so distinct from ordinary eclampsia, that it could scarcely be applied in explanation of the latter condition, except in so far as it indicates the effect of irritation of the motor cerebral centres in the production of convulsions of a general character.

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[1] *Archiv für Gynak.*, Bd. vii. s. 107, p. 4.

The following are the chief points of this case. They are worth some attention, were it for nothing but the very unique pathological condition in which the brain centres are found:—

About 10 A.M. on the morning of the 9th of March 1875, I was hurriedly summoned by Mr Bentley, one of my pupils at the New Town Dispensary, to see a patient to whom he had been that morning called, and who, he stated in the note, seemed to suffer from puerperal convulsions. She had been married for three years, and had had two children. The eldest, a healthy girl, was born about one year after marriage, and is still alive and well. This child, however, was suckled by the patient during the whole period of her second pregnancy, and even up to the commencement of her labour.

The second confinement took place on the 26th day of February 1875, at 3.50 A.M., when she was delivered by Mr Bentley of a male child, after an easy labour of a few hours' duration. All the stages were natural and normal. The placenta was removed about fifteen minutes after the birth of the child, with little or no effort on the part of the attendant. The labour would appear to have supervened about three weeks or so before the completion of the full term of utero-gestation.

The patient had continued to progress favourably until about 2 A.M. on the morning of the 9th of March, when she was noticed to be sitting up in bed, bent forwards. It is to be noticed that on the previous day she had been in her usual health, going about her duties, and making no complaints. When she sat up at this time she complained of no pain, and in fact never spoke, but appeared very restless, rubbing her legs and clutching at her hair.

On Mr Bentley's arrival at 9 A.M., the patient was completely unconscious, and there were present strong tetanic spasms, similar to those described below, only more violent in character.

On my arrival, I made the following note of her condition:—Face pale; general appearance anæmic; skin soft and dry, but feels as to temperature natural; pupils somewhat contracted, and almost completely insensible to light; conjunctivæ insensible to touch; eyes glazed-looking. Patient completely unconscious both during and between the attacks of spasm. Urine expelled involuntarily. Spasms of a truly tetanic character occur at intervals of about a minute. During these seizures the heels and the occiput are the only parts of the patient's body which touch the bed, the contractions being thus mainly of an opisthotonic character.

During each seizure the muscles of the back are seen to be strongly contracted. The upper extremities are powerfully flexed, the fingers being bent forcibly towards the palm, and the thumb turned inwards, and the forearm powerfully flexed over the upper arm.

The slightest irritation applied to the skin, such as the touch of a cold hand, is sufficient to throw the patient into complete opisthotonos, which attacks are also induced by every effort at examining the patient's condition.

The muscles of the neck are powerfully contracted during the attacks, more particularly the sterno-cleido-mastoid; but there is no risus sardonicus, and it is only during the more severe attacks that trismus occurs. Every 1½ minute or so an attack occurs, and every fourth or fifth attack is much more severe than those intermediate. There is no congestion of the face during the spasms. Though the opisthotonos can be induced at any time by application of external stimuli, the attacks recur at regular intervals of about 1½ minute spontaneously.

Pulse 74, weak, soft, compressible, and somewhat irregular. Respirations, during intervals between the fits, shallow and quick, being 26 per minute, but during the attacks they become stertorous. Temperature per vaginam, 101°.

Attempts to get the patient to swallow induce violent fits, but prove wholly abortive.

On examination per vaginam and per hypogastrium, uterus, parametria, and vagina seemed perfectly normal.

A catheter was now passed, and about a tablespoonful of water extracted from the bladder.

This, on cooling, exhibits a profuse deposit of urates, is of acid reaction, but on heating with nitric acid does not give the slightest trace of albumen.

The following treatment was then ordered:—

℞ Hydratis chloralis, . ʒiij.
Aquæ, . . . ℥ij. Solve.

Sig. A tablespoonful to be mixed with a little warm water and injected into the rectum. The patient gradually got weaker and died at 2.15 P.M.

Post-mortem Examination, Forty-six Hours after Death. Performed by Dr John Wyllie.

Brain.—On opening the skull, about two ounces of serous fluid escaped from the lateral ventricles. Cerebral convolutions were flattened, and some venous congestion of the cerebral surface present. Both lateral ventricles were filled with dark blood-clots, which passed forwards into the anterior cornua, and backwards into the posterior cornua. The amount of clot seemed to be about half an ounce in each ventricle, and there was some laceration of the ventricular walls. In each corpus striatum there were a vast number of small extravasations, varying in size from that of a millet-seed to that of a pea. This condition was found to extend throughout the entire tissue of both corpora striata. The third ventricle also was filled with blood-clot, which again was found to extend along the iter to the fourth ventricle, and hence to the inferior sulcus between the two lateral lobes of the cerebellum.

As a result of the hæmorrhages into their tissue, both corpora striata were torn up and softened. The venæ Galenæ and the straight sinus were found occupied by a large, dense, firm, and adherent thrombus. This condition extended also into the left lateral sinus, but in its cavity the clot was not so firm. The blood in the right lateral sinus was fluid. Other viscera were found healthy.

It will be seen that this case presented many symptoms akin to eclampsia, only that the spasms were tonic and clonic, or mixed tonic and clonic, affected the muscles of the posterior aspect of the body especially, and were capable of being excited by the slightest external stimulus, such as the application of a cold hand to the skin.

The convulsions must have been produced by the peculiar brain changes. It becomes therefore interesting to ascertain, if possible, how these alterations arose, and how they acted so as to induce the convulsions.

The most important determining cause was manifestly the thrombus of the straight sinus and venæ Galenæ. How did it originate?

I can imagine no cause likely to give rise to this cerebral thrombus, except the peculiar condition of the blood associated with the puerperal condition. As a result of its presence, those portions of the brain draining into the straight sinus and venæ Galenæ, whether directly or indirectly, must of necessity have been thrown into a condition of intense venous congestion so soon as the impermeability of the straight sinus was established. This restriction as to drainage includes, among others, the venæ corporis striati, and the venæ choroideæ, as well as some cerebellar veins. In the congestion arising from this blocking-up of the venous channels, it seems to me that we have the proximate cause of the fits.

Whatever view may be entertained of the precise share taken in such convulsive movements by the other parts of the brain, and especially by the cerebral convolutions, as also of the relation of these ganglia to one another and to the brain, it may be held as proved that the optic thalami, the corpora striata, and the corpora quadrigemina, are great co-ordinating centres of motion for the various parts of the body, and that when any irritative influence is at work within the space of the brain occupied by them, we are certain to have general convulsions, with a tendency towards opisthotonos, if the corpora quadrigemina are affected, and to pleurosthotonos if one corpus striatum is more irritated than the other. Destruction of their tissue, again, leads to arrest of motion, or paralysis.

It appears to me more than probable that, had we seen this patient in the early part of the attack, we should have found the spasms general throughout the body, but that after the attack had lasted for some hours, and the extravasations into the ventricles and into the tissue of the corpora striata had advanced so far as to lead to pressure upon and destruction of the tissue of these ganglia, their functional activity must necessarily have failed, and, instead of exalted motor activity in the muscles regulated by them, arrest of such action must have resulted.

Up to the last, however, the corpora quadrigemina were in a different condition. Though the great mass of blood supplied to them drains into the straight sinus, and though, consequently, the same condition which congested and broke up the corpora striata led to irritative congestion of the former ganglia, yet, whether, owing to the vessels in relation to them being of stronger tension, or for some other reason, the congestion had not in their case led to extravasation, and consequently we had exaltation of their special function in the form of opisthotonos.

There is some difficulty in accounting for the sudden onset of the seizures, as, from the amount and the firmness of the venous thrombus, we cannot doubt but it must have existed for some days previously to the commencement of the fits. But I think that this is rationally and satisfactorily accounted for by the supposition that only immediately before the attack did the venous sinuses become absolutely closed, having previously admitted an amount of blood to pass, sufficient to prevent the occurrence of that degree of congestion capable of determining in convulsions.

I have thus been able to show, by direct appeal to dissection, that ordinary puerperal eclampsia is apt to be accompanied by minute apoplectic extravasations in the region of the corpora striata. But I have already said that I am compelled to look upon this condition as a result of the continued operation of the brain changes that cause the fits, and not as itself a cause.

I have also been able to refer to a case in which the congestion that led to the apoplexies seemed to me to have been the cause of severe general convulsions of a tetanic character. It appears, however, that in this case the extravasation that followed from the prolonged congestion limited, and ultimately terminated, rather than caused the fits.

Indeed, the prevention of the access of arterial blood to the brain motor centres, however induced, would appear to have been the essential condition that determined the convulsions in all these cases. Only for want of a better term, we have called it in the third case irritative venous congestion.

But I have already made this contribution too long, and must therefore stop. I have honestly endeavoured, by an examination and analysis of the very peculiar appearance in the brain and kidneys in my first case, to build up a reasonable conception of the essential pathology of the convulsions.

Whether my views be correct as regards even that case, is a subject that I freely admit is open to question. Whether, also, that case may be taken as a type of its class in regard to the cerebral and renal appearances in eclampsia, is a matter that can only be settled by a careful examination of the brain and kidneys of many fatal cases of the disease. All I wish to say is, that the conditions were so very decided, that I cannot help thinking they will be found present in all well-marked cases, and also that my second case, to a certain amount, supports me in this view.

I have, however, no wish to push my conclusions to an undue length, and shall be glad if this effort stimulates other observers to inquire into and elucidate this dark region, even though the result should be to negative my favourite hypothesis.

ARTICLE II.—*The Sewage Question.* By ANDREW FERGUS, M.D., Glasgow.

MAN and other living beings are continually giving off matters which are refuse, and if retained, poisonous, but which are utilized in the growth and development of other organisms, and are rapidly taken up by the earth and air to be food for plants, establishing a complete rotation in nature. Thus—earth the original mother, then from earth to plants, from plants to animals, and from animals back to the earth again. So important is this in the economy of nature, that some of these excretions are so utilized without any control on the part of the animal giving them off—thus, carbonic acid given out by animals is taken up by and causes the growth of the vegetable world, and thus the balance of nature is preserved. If this gas—the presence of half a per cent. of which renders the air poisonous—had been left to our own disposal, probably the whole world would have been asphyxiated long ago. The other excretions are equally necessary for the growth of plants; and if we do not so apply them, we act contrary to nature's law, and expose ourselves to punishment, which comes in the shape of nuisance, difficulty, and disease. These would not show themselves so long as the earth was thinly populated to any great degree, but when the population is congregated into villages, towns, and cities, then we see the disastrous results arising from neglecting or acting contrary to the laws of nature.

Villages and towns were at first built without any regard to the laws of hygiene, and it was merely with the view of increased convenience or comfort that improvements were effected.

Surface water, especially in heavy clay soil, creates great discomfort, and as towns built upon such soil multiplied, drainage would be more or less perfectly carried out, not less to the comfort than it would be to the health of the inhabitants. If drains had been kept to their true functions—viz., the drainage of the subsoil and the rapid removal of surface water—the great sewage difficulty would not have become so important and puzzling a question.

Until what we may term very recent times, the excreta of the people was deposited in outhouses, called by various names in different localities, into which also were thrown the house refuse and ashes; and we do not mean to defend the old system when we assert that a change was made from it without due consideration, or the slightest degree of knowledge of the results which would follow. Bramah invented the water-closet, which was at once hailed as a great boon to cleanliness, decency, and comfort; and this need not be wondered at, when we remember the abounding abominations of the old privy system; but had all the consequences which would flow from the water carriage of excreta been fully understood, it is possible that the system would not have been so enthusiastically adopted—indeed, these evils may even yet not have been brought fully to light.

It was at first supposed, and unthinking people still continue to do so, that we had merely to get these matters out of sight, and there was an end of them; and this erroneous idea was encouraged by the knowledge of the fact that organic matter passed into water, especially if the water had a rapid and tumultuous flow, would soon disappear, the oxygen of the air held in solution by the water destroying the organic matter. But as water can only hold a limited quantity of air in solution, it is evident that the quantity of organic matter must be very small or the stream will become polluted, especially if it is a sluggish stream. In a rapid shallow stream, with a rocky and uneven channel, the water is much more rapidly re-aërated than in an ordinary river. Experience has shown that no river in the kingdom can oxydize the excreta of the towns on its banks, and that wherever these are passed into the rivers at some distance from the sea they are apt to become offensive.

We would here wish to correct a widely-spread and deeply-rooted fallacy, viz., thinking of water as a universal purifier. If by that term were simply meant the removal of dirt from one place to another, no objection could be taken; but as it is now used popularly, it signifies much more, namely, the getting quit of dirt and refuse as such, and rendering them innoxious.

Yet, of itself and by itself, water has no such power; it merely, as we have said, removes dirt from one place to another. If you shut up pure water, and, if we may use the expression, pure filth, they will remain pure water and pure filth. Before there can be any change or purification another element must come into action, viz., oxygen derived from the air; therefore, when we allow organic matter to remain and decompose in our midst, in addition to the felt evils that may arise in the shape of nuisance and disease, we have one more subtle in the diminution of the vital constituent of the air, which can be ill afforded by the inhabitants of towns and cities.

Before treating of the conveyance and disposal of sewage, we may very properly pause to inquire as to its composition, for we believe that ignorance on this head has had much to do with the promulgation of numerous crude schemes for the purification and precipitation of sewage. Sewage is a mixture of rainfall (including also subsoil drainage), household slops, the excreta of man and animals, and the organic and inorganic refuse of public works. As regards the first of these—the rainfall—it will, of course, vary in different localities, but must in all cases be regarded as beneficial, inasmuch as it will assist in flushing the sewers. In addition to the rainfall, we have often the contents of various small streams, which have been converted into sewers by having been arched over. This last is a most pernicious practice, because the beds of these streams are always irregular, retarding the flow of the sewage, and affording facilities for matter to accumulate and decompose in their crevices and irregularities, thereby occasioning much evil. The entrance of subsoil water into our present system of sewers is also an evil, because, where it can do so, the contents of the sewers, and the gases generated in them, can also escape, polluting the soil and any water that may be drawn from it for domestic use.

Of course, this evil will be primarily felt in small towns and villages, where the inhabitants depend upon wells for their domestic supply; yet, even in cities, the constant pollution of the earth by the escape of sewage must in the long-run become deleterious.

As regards the other matters in sewage, I must enter a little more into detail, by saying that, with very rare exceptions, the really injurious ingredients are the organic, or, in simpler language, those which are capable of decaying. To estimate, therefore, the amount of what is hurtful, we must inquire how much is organic in the other constituents of sewage.

As given above, let us take house slops, and we shall find—1*st*. Of polluting ingredients, the soap with which we wash, and the dirt from our clothes and bodies. Now, a large portion of the soap consists of soda and potash, salts which cannot, under any circumstances, become deleterious or polluting. 2*d*. We have the organic matter derived from the cooking of food, and the washing of cooking utensils and dishes. Chamber slops come under the next head, viz., excreta.

If the foregoing be a correct account of the organic ingredients in house slops, it will be seen that they cannot be charged with any considerable amount of organic pollution, and might with impunity be passed into the rivers, the domestic water supply and rainfall so diluting them as to render them innoxious. The water of such rivers would not be more impure than the standard allowed by the River Pollution Commissioners, which is as under.[1]

The same cannot be said of the next ingredient that enters into the composition of sewage, viz., the excreta of man and animals. I am inclined to charge these with being, in a high degree, the cause of our present difficulties, and believe that ignorance has had much to do with converting our streams and rivers into gigantic cesspools. I use the term "ignorance" advisedly, for I am sure that when water carriage was first introduced, the results that would flow from it were not anticipated, in fact, were never investigated. The idea acted upon was, that if these offensive matters were once out of sight, there was an end of them, and no evil consequences were ever dreaded. Water carriage has, therefore, been adhered to with the most wonderful tenacity, and schemes without number have been devised to purify the water, though none of them, so far as we are aware, have ever been completely successful. The last ingredient of sewage is the organic and inorganic refuse, from chemical and other works—all of which we hold should be kept out of the sewers; and if a law were passed enforcing this, we have little doubt but that in the majority of cases the saved material would recoup the expenses of the process. If an Act be passed compelling all such refuse to be purified in some way or other, we shall be quite prepared for a great outcry against its hardships, and expect to be told that it will be utterly ruinous to the manufacturers. The same thing happened at the passing of the Alkali Act, yet I believe that few will deny that the saving of the material that polluted the air has resulted in profit.

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[1] Any liquid containing *in suspension* more than 3 parts by weight of dry mineral matter, or 1 part by weight of dry organic matter in 100,000 parts by weight of the liquid. Any liquid containing *in solution* more than 2 parts by weight of organic carbon, or 3 parts by weight of organic nitrogen, in 100,000 parts by weight. Any liquid which shall exhibit by daylight a distinct colour when a stratum of it—1 inch deep—is placed in a white porcelain or earthenware vessel. Any liquid which contains in solution in 100,000 parts by weight more than 2 parts by weight of any metal except calcium, magnesium, potassium, and sodium. Any liquid which in 100,000 parts by weight contains, whether in solution or suspension, in chemical combination or otherwise, more than ·05 part by weight of metallic arsenic. Any liquid which, after acidification with sulphuric acid, contains in 100,000 parts by weight more than 1 part by weight of free chlorine. Any liquid which contains in 100,000 parts by weight more than 1 part by weight of sulphur, in the condition either of sulphuretted hydrogen or of a soluble sulphuret. Any liquid possessing an acidity greater than that which is produced by adding 2 parts of weight of real muriatic acid to 1000 parts by weight of distilled water. Any liquid possessing an alkalinity greater than that produced by adding 1 part by weight of dry caustic soda to 1000 parts by weight of distilled water.

(*To be continued.*)

ARTICLE III.—*Cases of Aneurism of the Aorta treated by the Iodide of Potassium.* By BYROM BRAMWELL, M.D., Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne; Physician and Pathologist to the Newcastle Infirmary, etc., etc.

(*Continued from page 884.*)

OF nine cases of abdominal aneurism, recorded in the *Transactions of the Northumberland and Durham Medical Society,* the termination was as follows :—

Rupture into retro-peritoneal tissue,	4
Rupture into peritoneum,	2
Rupture into left chest,	1
Rupture externally through a bed-sore,	1
Cured,	1
	9

The case, which ruptured externally through a bed-sore, is, so far as I know, unique, and I feel quite justified in quoting it at length. The patient was seen from time to time by Drs Heath, White, and Hawthorn in consultation with Dr Cargill. It is reported by Dr John Cargill as follows (*Transactions of Northumberland and Durham Medical Society,* Session 1851–52, page 38) :—

CASE VI.—*Enormous Aneurism of the Abdominal Aorta. Death from External Rupture through a Bed-sore.*

"The patient, a gentleman, æt. 33, enjoyed good health until Christmas 1849. He then began to complain without any known cause of pain in the back, especially on stooping, or sitting long in a stooping position. He consulted Dr Taylor of Huddersfield, who treated him for sciatica. The only thing which gave him relief was large doses of Battley's solution. He was first seen by me (Dr Cargill) on the 4th January 1851. The pain was then very constant, sometimes in the hip, sometimes in the middle of the thigh. Aneurism of the abdominal aorta was suspected, but no trace of it could be discovered.

"By-and-by there came a different species of pain. This was of a scalding nature, and it was confined precisely to the anterior surface of the right thigh, the skin alone being the seat of it.

"During all this time there was no paralysis of the limb, nor any œdema of the feet, but there was a slight halt in walking.

"He now, after four months of treatment, improved wonderfully, so as to be able to return to business, and continued writing for four or five hours together, never entirely without pain, but that pain only trifling. He also gained flesh and looked well.

"*In August* all the symptoms returned; he got worse and worse, thin and pale, his appetite left him, and the opiates had to be repeated in large doses.

"*On the 15th of December* a tumour, about the size of a small apple, was discovered two inches to the left of the first two lumbar vertebræ. It was oblong, and pulsated strongly. A very faint rasping murmur was heard on auscultation.

"In seven days the tumour had acquired thrice the size in the lumbar region, and had crept round the left loin anteriorly to within two inches of the umbilicus. It felt elastic and somewhat tough, and the same loud rasping murmur was distinguishable both in front and behind.

"In a few weeks it attained an immense size, pushing up the diaphragm, and often impeding respiration. It pressed down into the left groin, and the left limb was almost entirely paralyzed, the foot was swollen, and the toes became intensely painful.

"The cutaneous burning pain before mentioned as affecting the thigh now frequently assailed the surface of the right side and the right back, and was best relieved by the same application, viz., cold water.

"About four weeks before his death Mr S. was seized with a dreadful attack of bilious vomiting, which continued at intervals for two days, and preceded by delirium and jaundice, and followed by obstinate constipation.

"At last the tumour became so large (see Plate II., Fig. 5) and hard, extending for three inches to the right of the umbilicus, that it seemed to some almost Utopian to regard it any more as an aneurism; but the result showed that its nature had been correctly appreciated, for, on the 19th February, he was seized with alarming prostration and difficulty of breathing, and in two hours he expired.

"When I came in two hours after his death, suspecting the proximate cause, I turned his body on to the right side, and found that the tumour had given way by a small opening in a deep bed-sore which had formed on the back, and that the bed and floor beneath were soaked with blood. The tumour was collapsed and soft.

"*The Autopsy* was made twenty-eight hours after death by Dr Gibb, house-surgeon of the Infirmary, in the presence of Dr Heath, sen., Dr Glover, and myself (Dr Cargill). Organs of the chest healthy, liver enlarged and fatty. The stomach was pushed upwards, and the whole of the small intestines were pushed over to the right side of the abdomen (where they occupied a small space only) by a solid tumour of immense size, over the anterior surface of which ran the tranverse arch of the colon and its descending portion. They were firmly agglutinated to the tumour, and narrowed in their calibre in consequence. The internal surface was very dark, as if the mucous membrane had been secreting carbon, and that tract of the tumour to which they were attached was as though painted with the same black deposit. The descending colon found its way into the pelvis by coursing over the right border of the tumour. The tumour had a hard, tough, leathery investiture, composed evidently of dense interwoven layers of cellular tissue, having a fibrous appearance. The following were its position, boundaries, and dimensions:—Superiorly it was bounded by the diaphragm, which formed the highest part of its wall. Hence it extended down the left side of the whole abdomen into the lumbar region, and forward to the pelvis, where it finished by pushing before it the fascia under Poupart's ligament for about an inch into the crural region, the psoas and iliacus muscles being lifted over its inner and lower surface, and by their inseparable attachment to it materially strengthening its wall.

"Thus, its lower termination was conical in form. The sacro-sciatic plexus was flattened and attenuated everywhere. To the right the tumour extended across the abdomen for three inches beyond the umbilicus, pushing the liver and stomach upwards, and the small intestine outwards and downwards, and resting on the vertebral column and the right lumbar floor, immediately internal to the right kidney, which it just cleared, leaving it in the undisturbed possession of its functions. Its length horizontally—*i.e.*, from the diaphragm to the thigh—was 16 inches; its transverse breadth—*i.e.*, from the junction of the sac with the left abdominal wall across its centre to its termination at the vertebral column—was 13 inches; from its anterior surface, through it to the anterior face of the vertebral column, was 6 inches, and composed of layer upon layer of dense fibrinous clot; and the weight of the whole mass was 14 lbs. The two last dorsal and the three first lumbar vertebræ were carious, two of them very much eaten away, and the interior of the canal itself in two cases only barricaded by its thickened and tough internal periosteal lining, which was exposed. The intervertebral cartilages were unaffected. The tenth rib was greatly absorbed. The eleventh was converted into a substance like a thin layer of cartilage, the chief portion of it being absent. The twelfth had entirely disappeared. On now detaching the aorta from the vertebral column from above downwards, we perceived an open orifice an inch long in its posterior wall close to the cæliac axis, and being a passage leading backwards to a true aneurismal dilatation of all the coats of the artery, and which for size might contain the fist. The direction of the passage of the aorta was through the right side of the mass, and therefore a few inches to the right of its natural position. During life the femoral arteries could be felt pulsating, and of equal strength. What happened to the left kidney was very remarkable. It nowhere appeared on the tumour being removed from the body, and we conjectured it would be found embedded in the sac. This was the case, for incising the tumour on its lower third in front, and towards its left side, we came upon it immediately under the first dense outer layer of the sac. It was perfectly flattened, and, as it were, pressed out, but preserved the usual pale, smooth, and compact aspect of the kidney. The artery and vein were flattened and obliterated, as was also the ureter. The right kidney was almost half as large again as it should have been to be natural."

The cure recorded in the Transactions of the Society is Dr William Murray's well-known case, the first case in which the rapid pressure method was adopted.

Great improvement followed the same plan of treatment in the following case.

CASE VII.—*Abdominal Aneurism partly Cured by Pressure.*

W. P., æt. 38, a sailor, was admitted to the Tynemouth Union Workhouse under the care of my brother, Dr J. W. Bramwell, who allowed me to examine the case, on 9th December 1874, complaining of rheumatic pains (worse at night) in various parts of the body, and of an abdominal aneurism.

Previous History.—Nine years ago he had syphilis. Five years ago he first perceived a pulsating tumour in the abdomen. It was then about the size of an egg. The tumour gradually increased in size until two years ago. At that time he was admitted to the Royal Infirmary, Liverpool, and pressure was made upon the abdomen. Since this treatment the tumour has been harder, and has not increased in size. He says he has consulted 200 doctors. All, with one exception, Professor Henderson of Edinburgh, told him it was an aneurism. For the last two years he has been able to go to sea. He is unable to do heavy work. The aneurism causes, he says, considerable inconvenience, and he constantly feels the beating. He has been treated by iodide of potassium, and the aneurism has on more than one occasion been compressed (probably below the sac). His present attack of rheumatism commenced about a fortnight ago.

Present Condition.—He is a short, dark-haired, dark complexioned man. Pale and anæmic. None of the joints are swollen. The temperature is normal. A large irregular-shaped tumour occupies the epigastric, umbilical, and left hypochondriac regions. It is broad above, narrow and rounded below. (See Plate II., Fig. 6.) The narrow part is very firm and hard, the upper part softer. Strong expansile pulsation is to be felt in the upper part of the tumour. The cartilages of the lower ribs are heaved forwards by the pulsation.

On Percussion, there is dulness over that part of the tumour which is situated in the epigastric and left hypochondriac regions. There is also dulness over the lower part of the left infra-mammary region.

On Auscultation, a very strong heaving pulsation is communicated to the ear through the stethoscope. A faint murmur is heard towards the end of the impulse. No murmur is heard posteriorly. There are no pressure signs. The heart is normal, but very weak. The radial pulse is 54. There are several scars and partly healed abscesses over the front of the chest. The glands in each groin are enlarged. The other systems and organs seem normal. The patient was treated by full doses of iodide of potassium. In a few days his pains were relieved. He discharged himself, saying he would go to sea again.

CASE VIII.—*Large Aneurism of Thoracic Aorta. Severe Pain. Relieved by large Doses of Iodide of Potassium.*

M. M., æt. 37, married, washerwoman, was admitted on the 20th April 1876, suffering from an aneurism of the ascending portion of the thoracic arch.

Previous History.—Two months ago she felt a severe pain under the right shoulder-blade. A week afterwards she noticed a lump above the right breast. The lump has steadily increased in size, the pain has become more severe, and she has been troubled with a tickling cough.

She never ailed anything before the commencement of the pain two months ago. She has not suffered from rheumatism. Has been a steady woman. Has always been accustomed to hard work, but never remembers having strained herself. She has had three children, no miscarriages.

Family History.—Unknown to her.

State on Admission.—She is a well-conditioned, healthy-looking woman. Hair dark brown. She complains of a "heavy beating" in the chest, and of constant pain in the right breast and shoulder. The pain is at times constrictive, and shoots into the right shoulder, and down the right arm to the tips of the fingers.

A pulsating prominence, the size of a hen's egg, is seen between the second and fourth right costal cartilages. On pulsation a double impulse is perceived, and the tumour is very soft and liquid-feeling. There is impaired percussion from the clavicle to the second rib. Absolute dulness from this point to the fourth rib (See Plate II., Fig. 7); impaired percussion from the fourth to the inferior border of the fifth rib, where the liver dulness commences. Transversely the absolute dulness commences at the right border of the sternum, and extends outwards two inches. There is impaired percussion over the manubrium sterni and between the right scapula and the spine. The chest-wall is here (posteriorly) more prominent than on the left side. On auscultation over the aneurism two sounds are heard, both have a soft muffled character, the second being the louder of the two. There is no murmur. The same sounds are heard very distinctly in the right scapula and spinal region.

The veins on the right side of the neck are prominent, and the base of the neck above the right clavicle is slightly swollen.

There is marked difficulty in swallowing, the stoppage being referred to a point corresponding to the manubrium sterni. Respiration in the right lung is weak and jerking. Sibilant and sonorous râles are heard all over the chest; the cough is frequent; inspiration is attended with a marked stridor; the voice is hoarser than it used to be.

The heart is of normal size, the aortic second sound accentuated. The radial pulse is 84, regular, the right somewhat stronger than the left. The carotid pulsations are equal on the two sides. She sleeps very badly because of the pain. She complains of a constant roaring in the right ear. Hearing on the right side is not so good as it used to be. She suffers occasionally from frontal headache.

The other organs and systems are normal.

Treatment.—Thirty grains of the iodide were ordered three times a day, and she was confined to bed.

Subsequent progress of the case.—After three or four days she was free from pain.

On 29th May she was obliged to go home to attend upon her husband, who was ill. At the time of her discharge she said she felt quite well. There had been no pain since the date of the last note. The prominence was less marked, but the pulsation was still strong and liquid-feeling. Dysphagia and cough had gone.

(*To be continued.*)

ARTICLE IV.—*On Retention of Urine in the Female.* By J. HALLIDAY CROOM, M.B., M.R.C.P.E., Physician Royal Maternity Hospital, Lecturer on Midwifery, School of Medicine, Edin.

(*Continued from p.* 926.)

AMONG the causes external to the bladder mechanically interfering with micturition may be ranked nearly all the swellings to be felt through the posterior fornix vaginæ, lying in the retro-uterine *cul de sac;* for example, an ovarian tumour, an effusion, the result either of para- or peri-metritis, an abscess and extra-uterine fœtation, or, as in the following case, from the sudden effusion of blood in hæmatocele.

In February 1878, I was asked to see a patient, æt. 32, a lady, on her second wedding tour. I saw her early in the forenoon, and found her suffering from much pain in the umbilical region, of a gnawing, twisting character. There was no increase of pulse or temperature. The pain was relieved on pressure. A menstrual period was just due. Rest and a full opiate were ordered. At 11 P.M. the same evening she was in a state of collapse, extremities cold, pulse very feeble and rapid, vomiting. On examining the abdomen a distinct fulness was felt all over the brim of the pelvis, but especially in the right iliac fossa; per vaginam there was a soft doughy bulging in the space of Douglas. During the night Professor Simpson was kind enough to see the lady in consultation, and confirmed the diagnosis of a hæmatocele. The following morning the swelling in the retro-uterine space was more marked, of a firmer consistence, and extended on either side of the uterus. The uterus was pressed upwards and forwards against the neck of the bladder and was fixed. The same evening the patient was unable to pass her urine, which had accumulated to a considerable extent. The catheter was used. The causation and management of the hæmatocele are no concern of the present paper. The progress of the case is alone of interest. Without being tedious, it was simply this, that within a fortnight all trace of the hæmorrhage had entirely disappeared. The swelling in the space of Douglas was the last portion of the effusion to be absorbed. Retention of urine lasted but for the first three days, when the post-uterine tumour was largest, and the cervix uteri consequently most firmly pressed upwards and forwards against the neck of the bladder.

Although the mechanical pressure of displacements or tumour just mentioned forms, apart from labour, the most common cause of retention of urine, yet causes acting reflexly are more frequent, perhaps, than appear at first sight. Take, for example, the following case:—

Miss B., æt. 55, has been at various periods under my care for trifling ailments. In January 1876, she told me that for some months she had great pain on passing her water—so much so that occasionally she had been unable to pass it at all, except when sitting over very hot water. When the urine did pass she felt as if a red-hot wire were in the urethra. The urine passed in jerks and in a small stream. I explained that a local examination was absolutely necessary. To this nothing would induce her to submit. Some weeks afterwards I was summoned to her one evening, and found her suffering much from a distended bladder. She had not passed any urine for two days. The bladder could be felt distinctly enlarged through the abdominal walls. The patient said that all the remedies which had hitherto been useful, such as sitting over steam, warm baths, and warm fomentations had on this occasion failed. On introducing my finger to the meatus with the view of passing the catheter the patient screamed and drew herself up in bed. A visual examination was insisted on, and obtained with much difficulty. Round the meatus urinarius the red, vascular, sensitive excrescence characteristic of the urethral caruncle was observed. The little tumour, which was about the size of a small cherry, entirely encircled the meatus. The catheter was introduced and the water drawn off. The following day, while the patient was under chloroform, I snipped off the caruncle and cauterized its base with a red-hot knitting-wire. I saw the patient lately, and she has not again suffered from retention. In such a case the retention was not due to mechanical obstruction to the passage of the urine, but partly due to a dread of allowing the urine to come into contact with the exquisitely tender surface of the caruncle, and partly to the irritable little body causing reflexly a spasmodic stricture of the urethra or neck of bladder. These urethral caruncles are, of course, recognised as a frequent cause of distress during micturition, but they are rarely alluded to as causing complete retention. Sir James Simpson[1] mentions the case of a girl in his ward in the Hospital who had a caruncle as large as a cherry. In her case the pain she felt on passing water was so severe that she used to retain it in the bladder for twelve hours at a time, and she looked forward to the period when the bladder must be emptied with the utmost horror. Probably in the case I have just related the retention was at first voluntary, until the distension became so great that the patient lost control over the viscus.

Dollmayr[2] mentions a form of retention in subjects of advanced age, in which, owing to continued inflammatory action set up in the mucous membrane of the urethra, polypoid thickening of the membrane takes place. In an extreme case of this kind he has found the urethral meatus surrounded by little ruddy eminences, which bleed freely when touched. He asserts that this condition is only observed in those who have long ceased to menstruate, and is very gradual in its onset; the urine being voided with increasing pain and in a gradually diminishing stream. Nitrate of silver or sulphate of copper have in his hands been completely curative.

The sympathy between the urinary organs and the lower bowel during the rectal excitement due to piles is a matter of common observation. It is seldom that hæmorrhoids cause complete retention. I believe that some of the cases of retention of urine after an ordinary labour are due entirely to reflex action of the piles, swollen, stretched, and torn during the second stage of labour. Piles and fissure of the anus are certainly much more common in women than men, and perhaps the pressure of the head on the rectum may be a more frequent cause of post-partum retention of urine than is commonly recognised.

The retention of urine occasionally met with in lying-in women, when it occurs immediately after labour, is no doubt in many cases due to paralysis of the bladder, or direct contusion of its neck, the result of a tedious labour; sometimes also to the development of inflammatory action in its neighbourhood. In many cases, however, of normal labour neither paralysis, contusion, nor inflammatory action will account for the retention, for none of these are present. In the cases which have come under my own observation, the retention has occurred most frequently

[1] "Clinical Lectures on Diseases of Women," *Medical Times and Gazette*, 2d April 1859.

[2] *Medicinisch-chirurgisches Centralblatt*, No. 40, 1876.

in primiparæ, and seems to occur just as often after a normal labour as after a tedious or instrumental one.

In these cases of natural retention of urine where labour has taken place it has always been associated with a more or less extensive rupture of the perineum. It appears very probable, therefore, that the raw, torn perineum may reflexly cause retention of urine much in the same way as fissure of rectum or hæmorrhoids. The following case seems to be particularly instructive on this point:—In February 1875 I attended Mrs I. in a tedious labour, resulting from a face presentation. Forceps were used. Owing to the non-rotation of the chin considerable difficulty was experienced. The perineum was torn up to, but not through, the sphincter. It was carefully stitched immediately on delivery, and united almost completely. There was complete retention of urine, requiring the use of the catheter for five days. Her next labour took place last June. It was rapid, almost precipitate. The patient was delivered before she could undress and get into bed. The point of union of perineum gave completely up to the sphincter. It was not stitched, and united very slowly. There was retention, requiring catheter for three days. The comment is obvious—while the contusion and pressure of a tedious face case may have been the cause of the retention in the first case, no such cause can be assigned for the retention in the second. In the absence of contusion, paralysis or inflammative reflex irritation of the torn perineum seems a very probable explanation. Dr Macculloch, one of the present residents in the Maternity Hospital, has noted for me the cases where retention of urine has occurred after perfectly normal primiparous labour during the past two months. Five such have occurred, and in each there has been a more or less extensive rupture of the perineum. Indeed, the duration of the retention seems to be in proportion to the extent of the rupture, for while in four cases the rent varied from $\frac{1}{2}$ to $\frac{3}{4}$ inch, the retention lasted two days; in the fifth, where retention lasted for a week, the rent was to the verge of the anus.

I have not met with retention of urine requiring the use of the catheter in hysterical women. Perhaps the less this instrument is used in such women the better. It may be that the following case had an element of hysteria in it; certainly it taught me a useful lesson.

Helen H,. æt. 30, unmarried, was placed under my care in connection with a charity, for which I act. She was supposed to be suffering from an ovarian tumour. She had led a very dissolute life—in fact, had been for some years little better than a common prostitute. She had been twice in the Lock Hospital, had aborted frequently, but never had a child at term. On examination I found the abdomen distended by a regular, even, dull tumour, extending from the pelvis to an inch beyond the umbilicus. It was inclined slightly to the left side. Patient said she had noticed it on the left side six months before, and that it had gradually increased since that date. Per vaginam there was considerable leucorrhœa and a large, probably syphilitic, erosion, including both lips of cervix uteri. The patient's urine, which was very scanty, was examined, and found to contain albumen. From the patient's history, and the account given to me by the matron of the institution, as well as my own examination, I arrived at the conclusion that the patient suffered from an ovarian cystic tumour. I wrote a note to the lady who sent her in to that effect, recommending that she should be placed under Professor Simpson's care in the Hospital. Two days after I was sent to see her, and found her suffering much pain in back and loins, and the tumour increased in size and tender. What further diagnosis I might have arrived at I cannot say. Fortunately for me, the patient asked me to draw off her water with a catheter. This I did, and relieved her of several pints of very turbid, highly offensive urine ; at the same time the abdominal swelling gradually and entirely disappeared. She afterwards calmly informed me that she had been under the necessity of having a catheter passed repeatedly both in the Edinburgh and Glasgow Infirmaries. Probably the sore on the cervix may have had something to do with the retention to begin with. My conviction is that the woman retained her urine for the purpose of deception. She was well up in tumours of various kinds, and had frequently received charity as a sufferer from an internal tumour. Now and then she overdid the retention, and had to go to hospital to have it relieved. Cases have occasionally occurred in which the distension of the bladder has been mistaken for something else. The present case affords a good illustration of making sure of the condition of the bladder before settling the nature of a similar tumour. It further serves to show that the bladder may be partially emptied from time to time, and yet the retention remain. Though in this patient the retention was so far voluntary, and done with intent to deceive, yet in some cases the dribbling away of urine from an over-distended bladder may deceive the patient. How often is this the case during labour.

Retention of urine from actual stricture of the urethra is, so far as I know, extremely rare, probably, no doubt, owing to the relative shortness and great dilatability of the female urethra. Dr Adams[1] mentions a case occurring in the practice of Mr Curling, in which punçture of the bladder was necessary. The disease had arisen from the contusion to which the urethra had been subjected during a tedious labour twenty-eight years before. Sir Benjamin Brodie[2] met with a case of stricture of the female urethra which would not admit the finest probe.

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[1] *Cyclopædia of Anatomy and Physiology*, vol. iv. part ii. p. 1266.

[2] *Ibid.*

Most of us are familiar with a form of partial, sometimes complete, retention, resulting from the impaction of a calculus in the urethra, easily enough diagnosed, and, from the dilatability of the tube, as easily removed.

It would thus appear that the causes leading to retention of urine in the female may be thus conveniently grouped:—

1. Injuries or contusions during labour acting directly or by subsequent inflammations.
2. Pressure of displacements or tumours acting mechanically on urethra or neck of bladder.
3. Injuries or growths acting reflexly.
4. Diseases of nervous system.
5. Direct obstruction within the tube of the urethra, as from stricture or foreign bodies, such as a calculus.

In drawing this paper to a conclusion there are one or two points which seem worthy of note.

1. In all cases of retention of urine a vaginal examination is necessary.
2. A gum-elastic male catheter of medium size, without the stilette, is the best form of instrument to employ.
3. In retention from displacement it is important to remember the altered position of the urethra. In retroversion of the gravid uterus the vagina is drawn upwards and forwards, the meatus is drawn upwards, and the direction of the upper part of the canal is backwards and downwards.
4. When any difficulty exists in accounting for the retention a visual examination should be insisted on.
5. It is a safe rule, before giving a definite verdict on any pelvi-abdominal tumour, to empty the bladder.

ARTICLE V.—*Notes of a Case of Extroversion of the Bladder and Epispadias.* By Dr HENRY W. LAING, Bridge of Earn.

MRS E., æt. 42, on 21st February, gave birth to a male child having extroversion of the bladder and epispadias. The parents are both healthy, and this is their tenth child; one died in infancy, the other eight are reported to be healthy. The mother enjoyed very good health during the earlier months of pregnancy, but not quite so good during the later months.

The child was born at the full time, and, with the exception of this rare abnormality of the uro-genital system, appears well developed. A tumour projects from the hypogastric region, and extends from the umbilicus to where the symphysis pubis ought to be, — measuring transversely one inch and a quarter, and about an inch vertically. The tumour, which forms an irregular oval slightly flattened on the surface, projects about half an inch from the surface of the abdomen. It is of a deep red colour, vascular, bleeding very easily, and presents the appearance of mucous membrane. This mucous covering dips down from the tumour to join the skin, and along the junction there is a very distinct line of demarcation. In addition to this tumour there are four smaller ones about the size of peas, projecting from its sides, and below it is the rudimentary penis. These small tumours all lie below a line drawn transversely across the middle of the large tumour, and are placed in the following order, beginning at the right side. The largest one, which is oval, and about $\frac{3}{8}$ of an inch long, lies in close apposition to the larger tumour, with its lower end resting on the right side of the glans penis. Other two, more rounded than the first, and together measuring a little over half an inch in length, lie close to the larger tumour, but separated from it and from one another by deep sulci, the lower one resting on the left side of the glans penis. These three little tumours along with the glans penis form a sort of continuous border round the lower half of the tumour. The fourth and smallest tumour lies immediately to the left of the median line, and wedged in between the large tumour and the upper surface of the penis. There is a fold of mucous membrane lying round the upper half of the right side of the tumour; although this projects between the skin and the tumour, it is not so firm, and does not present the defined character of the other small tumours.

The ureters open in the sulci between the small tumours and the large one, and although I could not see the orifices, their position was determined by the constant oozing of faintly acid urine from these points.

The penis, which measures about half an inch along its dorsal aspect, and not more than two lines along its ventral aspect, is overlapped in the whole of its extent by the tumour, so that only the point of the glans is seen projecting. Instead of being cylindrical it is flattened, and has the appearance which would be presented if a normal penis were slit along its dorsal aspect down to the floor of the urethra, and opened out. The upper surface of the penis is covered with mucous membrane continuous with that which invests the larger tumour. The change in the character of the mucous membrane, when it passes from the surface of the tumour to what should have been the urethra, is very marked. In the former position it is thrown into small ridges, giving the tumour a velvety appearance; this was very decided the first time I saw it, but now it seems to have lost it in a measure, having become rather paler in colour and somewhat harder on the surface, possibly from exposure to the air and the action of the decomposing urine.

The prepuce is very rudimentary, being represented by a small band attached to the lower surface of the glans, and binding it down to the skin. The frænum is seen in the mesial line quite distinctly.

The pubic bones seem to have been arrested in their development, for the cartilaginous projection normally existing at birth, which becomes ossified and forms the symphysis pubis, is absent. The ends of the bones are evidently held in position by ligamentous bands passing from the one to the other. The band of mucous membrane which should have formed the urethra passes over instead of under the ligaments joining the pubic bones, so that its whole length can be seen by slightly raising the tumour.

By some unknown cause the development of the hypogastric portion of the abdominal wall, of the anterior wall of the bladder, and of the pubic bones, has been arrested at an early stage, and the urethra has been left in a state of epispadias. Nature, finding the posterior wall of the bladder as the part most suitable for filling up the breach, has united its edges to the skin, and the pressure of the abdominal organs on this the weakest part of the wall has caused it to project as a rounded tumour. I think these small tumours may represent portions of the prostate, more particularly three of them, viz., that between the bladder and penis and the other two, which are in contact with the penis.

The interval between the penis and scrotum looks long, but merely on account of the very rudimentary condition of the former, and also because of the absence of the symphysis, from beneath which, in the normal state, the penis should spring. The scrotum is quite normal, and both testicles have descended into it. The anus seems to be a little nearer to the back of the scrotum than it ought to be, but this may be due to the absence of the symphysis and the tendency of the scrotum to drag downwards and backwards.

The presence of the urine has caused a good deal of redness round the umbilicus, otherwise the child is well and beginning to take the breast.

ARTICLE VI. — *A very extensively diffused Case of Lupus Erythematosus.* By W. ALLAN JAMIESON, M.D., F.R.C.P.E., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

(*Read before the Medico-Chirurgical Society of Edinburgh, 6th March* 1878.)

HAVING recently met with an example of lupus erythematosus presenting peculiar characters, and distributed over a large area, I venture to bring it under the notice of this Society, as being both interesting and rare. The case belongs to the more purely erythematous type of the disease, though by no means exclusively so, the implication of the sebaceous glands and the cell infiltration into the derma being more or less distinct in various patches.

J. J., 36, photographer. Though anæmic in some degree and deficient in muscular development, he has been a healthy man.

Is temperate in habits, and has never suffered from any form of venereal disease. His wife and family are also in good health, and there is no history of hereditary disease.

Twenty years ago a round reddish spot made its appearance about the centre of his left cheek, which was thought to be ringworm and treated as such; but it remained for some eighteen months little if at all changed. It remained much in the same condition for some years, confined to the cheek and not showing any tendency to spread further. Eleven years ago the eruption made its appearance on the hands and feet. On the hands the first patch came out in the triangular space between the thumb and forefinger, on the back of the hand; on the feet the disease attacked the ball of the great and little toe, and here it has not spread further; while the dorsal surface of the fingers and thumbs became in course of time involved. A further extension of the disease took place four years ago, when patches came out on the nose, and soon after on the right cheek. Since then more rapid progress has been made, the ears, face, forehead, and neck having been invaded. All this time there were no subjective sensations, no itching, no burning, only stiffness and diminished power of flexion of the fingers, and greater tenderness of the points of the fingers when using photographic chemicals.

On the 12th December 1877, his state was as follows:—

On each cheek were dusky red, erythematous, slightly raised, thickened patches, partially paling under pressure, but resuming at once their usual tint, varying from a split-pea to a sixpence in size. The patches were in many instances roughly circular, were tolerably well defined as to their margins, and here and there bore thin grayish papery-like scales. Above each eyebrow, behind the ears, and on back of neck were similar patches less markedly thickened, and there was a slight erythematous blush on each eyelid. The condition of the ears resembled very closely that met with in dry eczema. The skin of the nose, especially on its right side, was rough, dry, and thickened; the mouths of the sebaceous glands dilated and plugged with dry masses of epithelium, or covered over with scales. On removing these, which were firmly adherent, little tags were drawn out of the follicles. Between the patches numerous comedones studded the surface. One patch on the bridge of the nose was partially condensed and cicatrized.

On the backs of the hands were similar reddish patches, felt distinctly thickened on pinching up the skin. The whole dorsal surface of each forefinger was reddened and rough, bore here and there thin adherent scales, while the skin was tightened so as to render more than slight flexion impossible. The general appearance somewhat resembled that of a chilblain. The thumbs and other fingers were similarly affected, save that there was a portion of nearly normal skin behind each second joint, thus permitting more complete flexion of these fingers. The palmar surfaces of the fingers were dry and rough and pinkish red. The balls of the great and little toes presented an almost wartlike aspect.

Throughout the course of the case there has been an entire absence of weeping or moisture, only occasional bleeding from fissures. The scales fell off and were replaced every few days. The hands were habitually cold.

The case was thus specially interesting, since on the nose were the features of the true lupus erythematosus of the Germans fully developed, while on other parts, as the hands, were exhibited the characters of the erythematous lupus of some English writers, as, for example, that figured in plate xlii. of the New Sydenham Society's *Atlas*, by Mr Hutchinson, where the infiltration occupied but a thin layer.

The patient permitted me to remove two small pieces of skin for microscopic examination. One of these was from the lobe of the ear, the nose for obvious reasons not being an available situation, from a patch of tolerably recent date. After hardening, a section presented the following appearances:—Around the hair follicles were seen large and dense accumulations of cells, each individual cell being small, round, and somewhat granular. Here and there were round spaces or alveoli with a wall composed of fine fibres. These spaces were met with at various depths in the tissue of the corium, but seemed to tend outwards, as some were found in the epidermis and others burst on the free surface. They were probably examples of milium arising from destruction of a hair follicle or lobule of a sebaceous gland, said by Neumann[1] to be met with at times in lupus erythematosus. The epidermis was thin, but otherwise normal.

Another portion of skin was removed from a patch of eleven years standing on the back of the hand, where, as was to be expected, the pathological changes in an advanced stage of the disease were well marked. The surface of the horny layer of the article was seen to separate here and there in flakes, and at one part were swollen cells, apparently impregnated with a colloid material. The layer of Langerhaus separating the mucous from the horny layer, was distinctly marked as a bright band composed of condensed cells. The mucous layer was normal, the rib or prickle cells being very clearly seen. The papillæ were enlarged more in breadth than in height. The upper portion of the corium contained some degree of cell infiltration into its meshwork; but this largely increased as we descended deeper into its substance. Here the cells were in parts so thickly packed as to obscure almost entirely the fibres; and where this cell accumulation was very great, the tissue became friable, so that here and there the continuity of the section was

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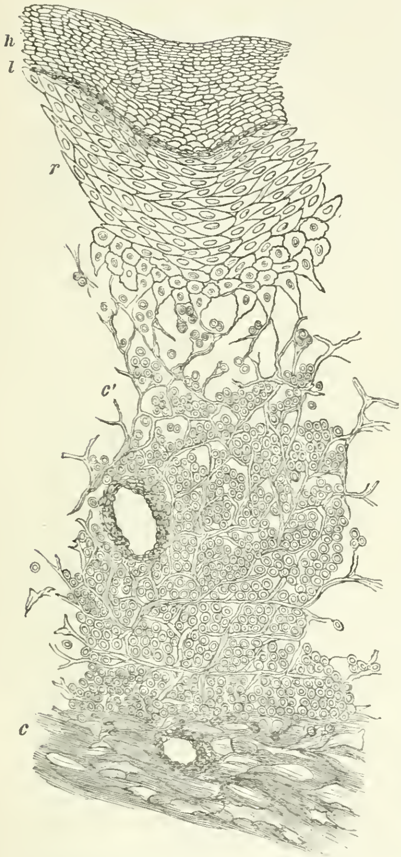
[1] *Lehrbuch der Hautkrankheiten*, *Vierte Auflage*, p. 485. This may explain the nearly total absence of any trace of hair follicles in the section taken from the back of the hand, these during course of years having perished.



broken. Many spaces in the upper portion of the meshwork were met with either empty or only containing a few cells, which were either dilated meshes, out of which the cells had dropped in the process of preparing the section, or which had merely contained serous exudation. The cell infiltration occupied the finer portion of the corium only; it ceased as soon as the structure became coarser, and partook more of the nature of ordinary areolar tissue. It evidently commenced in the deeper layers of this part of the corium, gradually making its way outwards, the structural changes being greatest where it had existed longest. The cells themselves were small, round, and with a granular aspect, and distinctly nucleated. There was no trace of sebaceous glands, and none, or but the mere remnant, of hair follicles. The duct of a sweat gland, apparently normal, was seen in one section.[1]

These appearances closely correspond to the description given by Geddings[2] (who has written an admirable account of the disease), of Kaposi,[3] and Neumann. The two former regard the disease as inflammatory, at least in its commencement, but developing into the formation of a new cell-growth distinct from ordinary lupus. Both the clinical features and the microscopical appearances of this case tend to confirm these views. The disease is a peculiar one, inasmuch as, though lasting so long, it remains absolutely limited to the upper and finer layers of the corium, and yet presents a very marked erythematous character. Yet it approaches lupus vulgaris in two points: one the preference it shows for the nose and cheeks, and another from its tending to cicatrize without ulceration; but, owing to the comparatively thin layer of tissue involved, the cicatrices which result are not much disfiguring, though from condensing the skin, and rendering it less pliant, they somewhat impede motion. The variety of lupus vulgaris to which it bears the closest resemblance is that now known as lupus exfoliativus, the old nonexedent form. I have had an opportunity of examining specimens taken from two examples of this latter form of lupus, and these are exhibited for the inspection of members. One was taken from a patch of lupus non-exedens on the outer aspect of the forearm of a boy of 13 of some years' standing. He had had a similar patch on his left cheek since early childhood. The papillæ were club-shaped, not enlarged, and contained a little cell infiltration, and more or less existed throughout the whole corium, as far down as the portion removed penetrated.

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[1] The woodcut which illustrates this paper was engraved from a drawing made on wood from one of my preparations, by John Haycraft, Esq., under the superintendence of Professor Rutherford, to both of whom I am deeply indebted for their kindness. The letter *h* denotes the horny layer of the epidermis, *l* the layer of Langerhans, *r* the rete Malpighi, *c′* the finer meshwork of the corium, its spaces dilated and filled with cells, *c* the opener and more areolar portion of the corium, quite healthy. Two bloodvessels are seen in section. It would be difficult to give a more faithful representation of the morbid appearances, as seen under a power of about 400 diameters, than is here depicted.

[2] *American Journal of Medical Science*, 1869.

[3] Hebra u. Kaposi, *Lehrbuch d. Hautkrankheiten*, 2wten Band, 1876.

The other was taken from a tubercle of lupus vulgaris on the shoulder of a Polish Jew; and in it the structural changes were much more distinct, and closely correspond to those found by Auspitz[1] in a similar case. The Malpighian layer was increased in parts at least to three times its normal thickness. The papillæ contained a moderate degree of cell infiltration, the cells resembling those found in the sections of lupus erythematosus, though rather larger; but they were not found in such masses together, they were more uniformly distributed, and penetrated much more deeply into the corium. Auspitz found them in greatest numbers round the bloodvessels, and this was distinct in the papillæ near the capillary loops.

There are some cases of lupus erythematosus which almost bridge over the interval between it and the more superficial and nonulcerating forms of lupus vulgaris, when the tubercular element is more, and the erythematous less, strongly pronounced. Though the origin of the disease is as a rule in the neighbourhood of the hair follicles in and around the sebaceous glands, after long continuance, and in rare cases, similar morbid changes are found where the sebaceous glands are either absent or very few. Neumann mentions a case where it was met with on the palmar surface of the hand—a feature observed also in the present instance.

As regards the indications for treatment in such cases, much help is obtained from the study of the morbid appearances. The diseased structure is so near the surface, that local measures may be employed alone with much hope of success, while the unimpaired health affords additional reason for their sole use. In Geddings's

[1] Quoted by Fox, *Skin Diseases*, 3d edition, p. 372.

case the disease disappeared entirely for two months after an attack of erysipelas. These considerations lead us to select such remedies as by exerting a somewhat irritating or mildly inflammatory action on the skin may thus promote absorption of the new growth.

In this instance friction with flannel dipped in Hebra's Sp. saponatus kalinus (a solution of two parts of soft-soap in one of methylated spirit), was first made use of, the fluid being well washed off with plenty of warm water and the part carefully dried. By its means the crusts and scales were softened and removed, the surface generally cleansed and prepared for further treatment. The solution is also one of the best stimulants we possess to the sebaceous glands, when these are inactive or congested. Its employment was directly followed by the application of a soothing and slightly astringent ointment—the unguentum diachyli being the one selected, spread on strips of linen and kept closely in contact with the skin. In a word, the soap cycle of Hebra was followed out each night, the parts being merely smeared with the ointment during the day. This treatment was persevered in for some weeks, and considerable improvement was observed. The hyperæmia was lessened and some patches entirely disappeared.

In the beginning of January 1878 the treatment was changed, and a trial made of an ointment containing 20 grs. of chrysophanic acid to the ounce of lard. Mr Squire had cured a case of acne rosacea[1] by its use, and as this latter bears some pathological relation to lupus erythematosus, it seemed worth a trial. The effect of the continued application of this ointment is to cause an erythematous redness of the skin, and some burning pain followed by desquamation. These results followed its employment in a case of lichen scrofulosus (lichen circumscriptus of Willan), which was under my care last summer, while the lichenous patches entirely disappeared. My patient tried it for ten days, but it occasioned so much pain, especially on the somewhat warty patches on the feet, that he would not continue it longer.

We then returned to the soap treatment, substituting, however, for the diachylon ointment, one made of ʒij. of oxide of lead to ℥j. of unguentum petrolei. This latter, which bears some resmblance to vaseline, but is purer and still more bland, has the advantage of forming an ointment which keeps well—a quality in which Hebra's valuable combination is deficient—while in addition it retains its oiliness when spread on the skin for a long time. Under this treatment a steady though slow improvement is going on, most marked on the face, but also on the hands, the fingers being more easily flexed and less painful; but the action of the photographic chemicals and frequent immersions in water tend much to retard progress there.

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[1] *Med. Times and Gazette*, Feb. and June 1877.

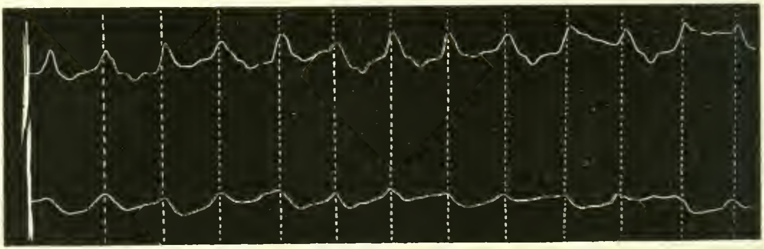
Article VII.—*On the Rhythm of Auricular Impulses.* By George A. Gibson, M.B., D.Sc., etc., Demonstrator of Anatomy in the University, and President of the Royal Medical Society, Edinburgh.

In the *Lancet*, during last autumn,[1] I published an interesting case of chlorosis, and showed tracings of the auricular pulsations so common in those suffering from this affection, along with a few remarks upon impulses caused by the dilated left auricle. The patient was in the clinique of Dr Balfour, and the paper was published as an illustration of his widely-read contribution upon hæmic murmurs.[2] The observations were afterwards extended in a paper published soon after;[3] but as at that time my differential cardiograph was not sufficiently improved to allow the presentation of any good simultaneous tracings, I am glad to be allowed the pleasure of doing so now.

It is perfectly unnecessary to make one single remark upon the origin, character, or clinical significance of auricular impulses, for, in the paper by Dr Balfour already referred to, this has been thoroughly worked out; all then that requires to be done is to show the tracings and point out their comparative rhythm.

It is, of course, most frequently in cases either of spanæmia or of heart-strain that auricular murmurs and pulsations are to be observed; but in organic disease of the heart, particularly in stenosis of the left ostium venosum, it is not rarely met with.

The first of the accompanying illustrations was obtained from a patient suffering from chlorosis. She was a hysterical girl, aged 19, whose pale complexion, colourless lips, and bloodless conjunctivæ were unmistakable. The catamenia appeared irregularly, and the digestion was weak. On inspection and palpation of the præcordia, the only abnormal sign was an impulse in the second left intercostal area, about an inch from the middle line. The stethoscope revealed a loud systolic murmur over this spot, and in the veins of the neck a distinct venous hum. The differential tambour cardiograph gave the annexed tracing, in which the upper



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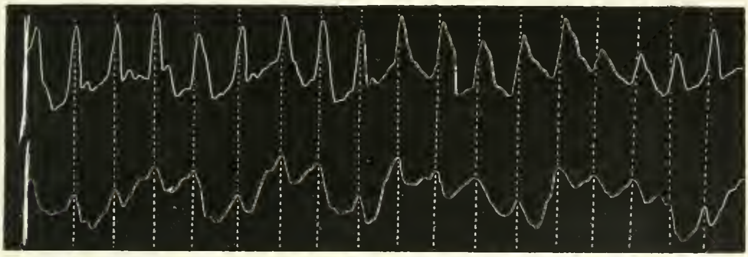
[1] 22d September 1877.

[2] *Lancet*, 15th September 1877.

[3] *Edin. Med. Jour.*, October 1877.

line is given by the auricular impulse, the lower by the apical. As will be seen by the vertical dotted lines drawn through the summit of the apical wave, the main wave of motion caused by the auricular impulse is later in time than that originating in the apex-beat.

The second tracing shows the impulses observed in organic disease of the heart. The patient was a girl 18 years old, of phthisical habit, and suffering from mitral stenosis with incompetence and tricuspid incompetence. Over her præcordia there was visible a distinct impulse in the second intercostal space of the left side, which on palpation was felt to be more powerful than the apex-beat. The auricular murmur was very loud.



The illustration shows how the upper tracing, or that of the auricular pulsation, nearly coincides with the lower, or that of the apex-beat, but is not quite synchronous, being a little later in relative rhythm.

These tracings, then, may be taken as proof of what Drs Naunyn[1] and Balfour[2] have always held, that the auricular impulse is caused by systolic regurgitation from the left ventricle into the left auricle through the mitral orifice.

ARTICLE VIII.—*Placenta Prævia, or Unavoidable Hæmorrhage.* By CHARLES BELL, M.D., F.R.C.P.E.

(*Read before the Edinburgh Obstetrical Society, 27th February* 1878.)

THERE is no complication in midwifery more to be dreaded by the accoucheur than placenta prævia, from the danger attending it both to the mother and child. It has, in consequence, attracted much attention from all the most eminent authorities in midwifery from an early period; yet there is still much to learn and to decide in regard to its symptoms, locality, cause, and treatment.

The older authors considered that its most characteristic symptom was hæmorrhage. Guillemeau, who wrote in 1609, stated that the hæmorrhage proceeding from it was so dangerous that nature was unable to suppress it.

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[1] *Berlin Klin. Wochenschrift*, 1868.

[2] *Clinical Lectures on Diseases of the Heart and Aorta*, 1876, Lecture vi.

Mauriceau, the most celebrated authority, states that when the placenta presents, the blood flows in abundance from the womb with many clots, and the woman faints from weakness. Therefore, as soon as the surgeon ascertains the nature of the case, he should immediately deliver the woman if he wishes to save her life and that of her child.[1]

Amand reports several interesting cases which illustrate the excessive flooding attending this complication. In the case of a woman aged 49, in the eighth month of pregnancy, the hæmorrhage was so great that she fainted several times, and when Amand arrived, she was thought to be dead.[2] On examination, he found the placenta presenting, and that it was entirely detached He delivered the child; but it was dead. In another case the hæmorrhage was checked by means of venesection, astringents, and the use of ice. In a third case, the placenta was entirely detached, and hanging between the thighs of the mother. The child was dead; but the delivery was easy, and the mother did well.

La Motte states, of all the accidents which can occur during labour there is none more perilous than that in which the placenta presents before the child, because it is accompanied by such violent loss of blood that it is impossible for the woman to escape death, unless she is promptly and skilfully assisted.[3]

Deventer considered that the sign of placenta prævia was the flooding that accompanied it, sometimes in such abundance as to place the mother and child in imminent danger.[4]

Roederer seems to have been fully aware of the nature of placenta prævia, and clearly describes its symptoms and consequences. Having made some preliminary remarks regarding the various causes of hæmorrhage, he states that the most frequent is placenta prævia (placenta oblata). When this takes place, it is characterized by the following symptoms as labour approaches: hæmorrhage coming on suddenly without any apparent cause; in small streams at first, which soon ceases. It returns again, however, in larger quantity, flowing for a longer space, with little interval. When labour pains come on, it flows in a continued stream, accompanied with clots; and unless sufficient aid is had recourse to, it proves fatal to the mother, the presage of which is the gradual weakening of the pains, which ultimately cease entirely, extreme chilliness, dimness of sight, feeble intermittent pulse, syncope, oppression of the chest, cold perspirations, and nervousness. Some women die in convulsions; others sink from debility.[5]

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[1] *Des accouchemens*, p. 328.

[2] *Nouvelles observations sur la pratique des accouchemens*, pp. 317, 318.

[3] *Traite des accouchemens*, p. 330.

[4] *Observations important sur le manuel des accouchemens*, p.180.

[5] *Elementia Artis Obstetricæ*, p. 316.

Portal reports six cases of placenta prævia which were characterized by excessive floodings; two of which were rendered still more interesting and remarkable by the children being born alive after the artificial separation of the placenta. One of the children was asphyxiated when born, and in order to revive it, he informs us that he had it placed before the fire, and the placenta, which was still attached to it, put in a pan with wine, and kept warm over the fire; he also spouted some of the best wine into its eyes, nose, ears, and other parts of the face. It was then wrapped up all over in clothes dipped in warm wine, which was changed so soon as they became cool. Bruised onions were held to its nose and mouth, by which means it revived and did very well, as well as the mother.[1]

Levret states that when the placenta is attached to the superior part of the cervix uteri, the woman cannot escape having hæmorrhage towards the end of pregnancy; and that the flooding increases with the pains, and is more considerable according to their frequency and acuteness.[2]

Puzos treats of hæmorrhage in a very cursory manner, although he seems to have been fully aware of its great danger. In treating of preternatural labour, he places it in the first rank of complications; but he does not distinguish accidental from unavoidable. He merely states, that of the causes of preternatural labour the most dangerous is that which is preceded or accompanied by such a loss of blood as places the mother and child in great danger, although the presentation is quite natural. When the hæmorrhage is moderate, and there is disposition in the pains to dilate the os uteri, all that is required is to recommend the patient to keep her bed and not to exert herself; but if the discharge is more violent, which is the case when the placenta is separated either entirely or partially, in such a case, the delivery should not be delayed longer than to admit of the performance of religious duties, and in order to allow a diagnosis to be formed. The necessity of delivery is obvious, for without it the death of the mother and child is certain.[3]

Leroux, in his interesting observations on hæmorrhage in general, reports some remarkable cases of placenta prævia in which the discharge of blood was excessive. He fully understood the nature of the complication, and he adopted the most approved mode of treatment with complete success, so far as the mother was concerned. In one case, the hæmorrhage was so great that he was afraid the woman would die before he could deliver her. According to custom, having induced her to confess, he proceeded to turn the child, which presented with the face. He searched for the place where the placenta was separated, and pierced the membranes, and easily introduced his hand and turned. In another case, the hæmorrhage continued for fifteen days, and reduced the woman to great weakness. The peculiarity of this case was the difficulty of removing the placenta after the delivery of the child, in consequence of the os uteri being contracted round it.[1]

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[1] *Compleat Practise of Men and Women Medivives*, Trans. from the original, pp. 166-214.
[2] *L'art des accouchemens*, p. 364.
[3] *Des accouchemens*, p. 167.

M. Boivin, who was considered a high authority, states that when the placenta presents before the child at the passage, it always causes excessive loss of blood, which is liable to prove fatal both to mother and child; therefore it ought to be remedied by immediate delivery.[2]

These references seem sufficient not only to prove the frequency of hæmorrhage in placenta prævia, but to justify the opinion that it was a characteristic symptom of that complication. It is remarkable, however, that while placenta prævia had attracted so much attention, and was so thoroughly understood on the Continent, it was apparently little known in this country previous to the publication of Dr Rigby's valuable treatise on uterine hæmorrhage, in which he clearly described its nature, and pointed out that there were two distinct forms: the one he designated "accidental," the other "unavoidable" hæmorrhage. He considered that "there is no particular part of the uterus to which nature seems constantly and uniformly to fix the placenta; it is, nevertheless, for the most part, so situated, that if the woman be healthy, and no accident befall her, it does not separate until the full term of pregnancy,—nor then, before the entire separation of the child; after which it becomes disengaged from the uterus, and is thrown off, making room for its contraction, which, shutting up the mouths of the vessels, effectually prevents any considerable loss of blood; for which purpose it is plain it must be fixed to some part of the womb which does not dilate during labour, namely, the fundus, or sides of it. In this case, when flooding comes on before delivery of the child, it is obvious that the separation of the placenta must be owing to violence done to the uterus by blows or falls, to some peculiar laxity of the uterine vessels from badness of habit, or fever, or some influence of the passions of the mind suddenly excited, such as fear, anger, etc.," thus producing "accidental" hæmorrhage. "But, from the uncertainty with which nature fixes the placenta to the uterus, it may happen to be so situated that when the full term of pregnancy is arrived, and labour begins, a flooding necessarily accompanies it without any of the above accidental circumstances, that is, when it is fixed to that part of the womb which dilates as labour advances, namely, the 'collum' and 'os uteri,' in which case it is very certain that the placenta cannot, as before described, remain secure till the expulsion of the child, but must of necessity be separated from it in proportion as the uterus opens, and by that means an hæmorrhage must be unavoidable."[1]

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[1] *Observations sur les perte de sang*, p. 100.

[2] *Mémoire de l'art des accouchemens*, p. 363.

The principles here laid down, and the designations assigned to the different forms of hæmorrhage, have been adopted by nearly every accoucheur of experience since they were published. There are some recent writers, however, who not only deny that hæmorrhage is unavoidable, but question the anatomy and physiology on which it was supposed to depend.

Cazeau asserts that "although a hæmorrhage is usually considered to be inevitable under the circumstances (placenta prævia), yet it may not appear even during labour, and the dilatation of the os uteri may be effected without the loss of a drop of blood."[2]

Barnes supports this assertion in rather a grandiloquent style, in which he impersonates nature in a remarkable manner. After a digression on the treatment of fever, which has no connexion whatever with the subject under consideration, he compares it with the principles of treatment of placenta prævia; he then proceeds to say, "Nature declares, and pronounces emphatically, that the hæmorrhage is not in all cases unavoidable, and progresses in proportion to the dilation of the mouth of the womb. She protests against the assumption that in this great emergency she is altogether at fault, and powerless to arrest flooding. Let not those who never had the courage to trust her, the patience to observe her, or the skill to interpret her, too confidently deny her power."[3] After such a passage as this, we naturally expect some convincing evidence in support of it; but in place of that, he quotes a case, which is imperfectly reported, by the late Dr James Reid, who "was sent for by a midwife to a woman, who, at the full time, had been seized the previous evening with labour pains, which gradually increased in strength through the night, and continued till *one* P.M.; at the time the os uteri was fully dilated and the membranes ruptured, a much larger quantity than usual of liquor amnii escaped.

"By the account I received, it appeared a fortnight previous the patient had hurt herself by a strain whilst washing, and that since that period she had not felt any movement of the child, a severe pain remaining in the right iliac region. The midwife could not discover any presentation, through the membranes, during the expansion of the os uteri, and was much astonished, on their being ruptured, that she was unable to do so. The only substance she could feel was a soft mass close to the os uteri. [Concluding it to be placental presentation, she sent for Dr Reid. To his surprise, as there had been no hæmorrhage, Dr Reid found this conclusion correct.] I found the os uteri fully dilated, and the placenta attached firmly to the pubic and lateral portions, so as to prevent effectually my finger from advancing in these directions. Forcing pains came on during this investigation, they having been trivial all the afternoon. I introduced my hand into the uterus towards its posterior part (a proceeding unattended by any difficulty), and found the hollow of the sacrum unoccupied; advancing the hand still higher above the promontory, I could at length distinguish the child's head strongly encircled by the upper part of the uterus. A foot was seized, and delivery effected. The child was of moderate size, had evidently been dead some time, as the cuticle was desquamating, and the abdomen tense and inflated with air. The placenta was readily brought away soon after."[1]

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[1] *An Essay on the Uterine Hæmorrhage*, pp. 13, 15, 16.
[2] *A Theoretical and Practical Treatise on Midwifery*, p. 757.
[3] *The Physiology and Treatment of Placenta Prævia*, p. 40.

Dr Barnes adds that the above case proves a position I have put forward, namely, that the hæmorrhage in placenta prævia is not "*unavoidable*."

It must be obvious, however, to every unbiassed observer, that it gives no support whatever to this position. It was clearly an example of anterior or "lateral presentation of the placenta," which this author informs us is not, unless under very exceptional circumstances, liable to detachment, or to lead to floodings before the birth of the child.[2] There was no flooding in this case, because there was no detachment of the placenta.

Other authors have denied the fact that hæmorrhage is inevitable in placenta prævia, but Dr Matthews Duncan is the most recent who has done so; but obviously upon equally questionable grounds. He says:—"This accident (hæmorrhage) is common, but many cases of placenta prævia of all kinds do not present it." Therefore, he further states his "theory, as explained in the preceding pages, is that the hæmorrhages during pregnancy are accidental, not necessary, and this occurrence is favoured by the extraordinary anatomical conditions existing in placenta prævia, as well as by other circumstances, some of which are known, as the increased pressure of blood above what it would be were the placenta inserted high on the uterine wall."[3]

This very obscure passage proves nothing. There is no evidence that there is greater pressure of blood in placenta prævia than when that organ is situated high on the uterine walls. Before denying or attempting to overturn a fact so generally admitted by all accoucheurs of experience and observation, as that hæmorrhage is unavoidable in placenta prævia, these authors would have done well had they brought forward something more than mere assertion or imperfectly-observed cases in support of their hypothesis or "theory," as Dr Duncan calls it. Were this opinion admitted as a fact, and the suggestion of leaving the case to nature, after partially separating the placenta, acted upon, the results would be hazardous, if not fatal, both to mother and child.

[1] *Op. cit.*, p. 115.
[2] *Op. cit.*, p. 63.
[3] *Mechanism of Natural and Morbid Parturition*, p. 305.

(*To be continued.*)

Part Second.

REVIEWS.

Mortuary Experience of the Mutual Life Insurance Company of New York, with Tabulated Reports, and an Analysis of the Causes of Death. By G. S. WINSTON, M.D.; W. R. GILLETTE, M.D.; E. J. MARSH, M.D. Vol. II. New York: 1877.

TWO years ago the company published its mortuary experience for thirty years; this second volume, as then promised, contains a more detailed and specific study of their experience. Where practicable a comparison has been drawn between the mortality rates and those of other companies, and also of the adult male population of New York. In this way a large amount of interesting and valuable information has been collected, available for the future guidance of similar institutions both in America and on this side of the Atlantic.

The subject of consumption is made to occupy a primary place in the volume on account of its pre-eminent importance. The treatment of many questions in connexion with it is able, careful, and exhaustive. Our limits preclude a satisfactory exposition of the paper, and we shall content ourselves, therefore, by quoting a brief synopsis of statements and conclusions:—

"1. Consumption causes from ten to fifteen per cent. of the total mortality in all parts of the world, and destroys annually about thirty-five in every 10,000 adult inhabitants. In New York city nearly one-third of all the deaths occurring among adult males are caused by this disease.

"2. In the experience of the Mutual Life, the proportion has been 19·74 per cent. of the total mortality, and nineteen per 10,000 lives annually. (This speaks well for the care and skill of the medical staff.)

"3. Consumption prevails with nearly equal frequency at all ages between twenty and sixty years, and, according to American statistics, with increasing frequency above that age. (These startling results have been elaborated in a very careful manner.)

"4. In life insurance experience this law of equal prevalence betwixt twenty and sixty years does not hold good. The disease is frequent at all ages, but has a maximum at about twenty-one years, then diminishes up to the age of sixty, and after this increases. The difference between the mortality in the general population and among assured lives is accounted for by the more ready detection of consumptive risks after middle age than in youth.

"5. There is little difference in its prevalence in different sections of the United States, as experienced by the Mutual Life.

"6. There are few deaths from consumption within the first year of insurance; the number increases regularly to the fourth year, after which it remains nearly uniform during all subsequent periods.

"7. Our records show nothing important with regard to the influence of occupation.

"8. The average weight of consumptives is considerably below that of non-consumptive persons. Hence, a *light weight* must be regarded as a suspicious circumstance in estimating the value of a life for insurance.

"9. The existence of an hereditary tendency to consumption has been generally asserted and believed, but has not been proved. Our statistics afford this needed proof. It occurs, however, only in a minority of cases, and its presence or absence should not be allowed undue weight in deciding upon the value of a life.

"10. Hæmoptysis is the most valuable sign of the consumptive diathesis, and, whatever its reported cause or source may be, it should never be disregarded, and no person should be considered a safe risk for life insurance until *ten* years have passed since its occurrence."

There are some curious conclusions on the subject of apoplexy with reference to insurance. "In 100,000 persons in the *first* year of their insurance, 43 will die of apoplexy; of the same number in the *second* year of insurance 27 will die; from the third to the fifth year, the annual mortality will be 51; from the sixth to the tenth year, 66; and after ten years 124. We find that the annual mortality is much greater in the first than in the second year, and nearly as great as in the third. After the fifth year the mortality increases considerably. But here another element, namely, the increase of age, comes into consideration, and this will account for a large part or all of this increase. The falling off in the second year is remarkable, and only partly to be explained by supposing that individuals with some slight admonitions of failing health, and for this very reason, apply for insurance. Presenting no special marks of disease they are approved by the medical examiners as healthy and safe lives; while, meanwhile, their own suspicions, scarcely acknowledged by themselves, turn out to be correct. Degeneration of their physical structure continues, and within a few months they die of apoplexy. We have further ascertained that this high mortality during the first year is common to all ages, and at each decennial period the deaths are more numerous in the first than in the second year after insurance." The moral seems to be, increased vigilance on the part of medical examiners in estimating the risks on each particular life.

This octavo volume, of 224 pages and a useful index, is got up with the excellence of type and paper so characteristic of our friends in America. It will repay a careful perusal by all who take any special interest in the philosophy and practical working of life insurance.

A Code of Medical Ethics: With Remarks on the Duties of Practitioners to their Patients, and the Obligations of Patients to their Medical Advisers: Also, on the Duties of the Profession to the Public, and the Obligations of the Public to the Faculty. By Jukes Styrap, L.M.K., Q.C.P., etc., Physician Extraordinary to the Salop Infirmary. Churchill: London: 1878.

We have read this treatise with much satisfaction. It has been evidently prepared with great care, and, as the author tells us in the preface, it has been critically revised and approved by several distinguished practitioners in England, Ireland, and Scotland. Although extending to only forty-six pages, each containing somewhat less print than our own, it enters into detail, and does not evade, as far as we see, any important questions. The tone is high; the honour of the profession constitutes a principal motive throughout, and is only subordinated to the royal rule, James xi. 8, "Thou shalt love thy neighbour as thyself," and to that other injunction, "Whatsoever ye would that men should do unto you, even so do unto them."

Dr Styrap makes a remark which deserves consideration—"There cannot, we think, be a doubt that in our profession, unlike all others, the *social* principle is weak, and that each member is too apt to consider his own individual case and interests, regardless of the detriment the profession at large thereby suffer in character and public estimation. Such evils are, we take it, to be best overcome by the habits of association and mutual intercourse, which scientific and social intercourse are calculated to engender; for their influence is not confined to the science of the profession—they exert a moral and a social power upon us not to be overlooked." Perhaps it is going too far to say that the *social* principle is exceptionally weak among medical men. It must be remembered that their time, as a rule, is less at their own disposal than in the case of others; but we cordially endorse the opinion so well expressed, that the more we are brought into familiar intercourse with our brethren, the less prone shall we be to misunderstand them.

The following statement we believe to be correct, and deserving of much attention:—"Professional differences, it may be well to note, not infrequently arise from want of candour—*suppressio veri*, if not deliberate falsehood—on the part of the patients, their relations, or attendant friends, and probably constitute the most fruitful source of the unhappy heart-burnings and jealousies which so frequently disgrace an otherwise noble profession. A medical man, therefore, cannot be too cautious how he receives and acts upon invidious statements, *said* to have been made in reference to a case by a professional brother or other person, for such reputed remarks are so often either misunderstood, misrepresented, or wilfully perverted, as to give rise to serious disputes or lasting estrangements, which a personal interview, or a mutually courteous note of inquiry and explanation, would have prevented or removed; be it therefore a special obligation on the faculty to be ever careful and wary in respect to statements which involve disparagement of a brother practitioner."

Here is a good advice to patients:—"A patient should avoid *even the friendly visits of a practitioner* not in attendance upon him; and, if constrained to receive them, he should *never converse on the subject of his malady*, for an observation might be made which, without any intention to professionally interfere, may weaken or destroy his confidence in the treatment pursued." Of course, the practitioner should avoid as much as possible the temptation hinted at, by not visiting the patients of other men, except under very peculiar circumstances.

The following view of the "obligations of the public to the profession" deserves consideration, and is applicable to the present outcry about vivisection:—"The benefits accruing to the public, directly or indirectly, from the active and unwearied beneficence of the profession are so numerous and important, that medical men are justly entitled to the utmost consideration and respect from the community. The public ought, likewise, to entertain a just appreciation of medical and surgical qualifications; to make a proper distinction betwixt true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of practical instruction, and not to allow the statute-books to exhibit the anomaly of exacting, purely in the interest of the people, skilled knowledge from the profession under a liability of heavy penalties, and at the same time deter them, by penal enactment, from resorting (except under stringent and unnecessary restrictions, insulting to a proverbially humane profession) to one of the most effective means of advancing medical science, viz., carefully conducted experiments on living animals—vivisection, so-called—to the scientific practice of which, the present state of medical knowledge and the advance it has made during the last half century are, in a great degree, undoubtedly due. If, in absurd deference to the denunciatory and unreasonable clamour of a small morbid section of society, the scientific use of vivisection were prohibited, the progress not merely of theoretic physiology, but of practical medicine would be greatly retarded, and a serious loss entailed on suffering humanity."

We cordially recommend this little book, to the younger members of the profession in particular, as a well-considered code of medical ethics.

Statistical Report of the Health of the Navy for the Year 1876.

This blue-book contains a great amount of accurate statistical information, and extends to 397 pages, with an Appendix of 216 pages additional. Of course, it is chiefly interesting to our legislators, and to those members of the profession who belong to the Royal Navy; and therefore it will not be expected that we should enter into details in a notice so limited as that which our space admits of. We have pleasure in referring, however, to a paper of some general interest, and manifesting a great amount of careful investigation, by Fleet-surgeon A. B. Messer, M.D., of H.M.S. Pearl. It is entitled, *Continuation of an Inquiry into the reputed Poisonous Nature of the Arrows of the South Sea Islanders,* published in the *Statistical Report of the Health of the Navy for* 1875. Dr Messer, since writing his former communication on the subject, drew out a series of questions bearing upon it, and got them extensively circulated among the various missionaries who were then, or had in former times been, resident in the islands of the South Pacific. These questions elicited a large amount of important information from gentlemen whose position of respect among the natives furnished them with many reliable opportunities for obtaining it. He also instituted a series of well-devised experiments on dogs and rabbits, with various reputed poisons, obtained either from plants or from the surface of arrows alleged to be poisoned. These poisonous substances have been since examined chemically and experimented with by several scientific and competent authorities—Professor George Busk, F.R.S., Professor Liverridge of the University of Sydney, and Professor Halford of Melbourne. Dr Messer concludes from the whole inquiry:—"I think we may be justified in looking upon these reputed poisons with the greatest doubts as to their potency. At the same time, it would be premature to state positively that none of them, or any of the other substances used by the natives of the South Sea Islands, do not contain active poisonous properties. But that these natives possess a poison that will, by a very short contact with the living tissues, produce, after an interval of five or ten days, a disease undistinguishable from traumatic tetanus, is a fact yet to be proved. Careful chemical analysis, and further experiments, will be necessary to decide this point so certainly as to enable us to declare positively that there no longer exists any foundation for the *pernicious dread* in which these arrows have so long been held. If this should be fully established, we may then confidently hope that fatal cases of tetanus after wounds by these weapons will become more rare than they have hitherto been." Dr Messer evidently believes that the *dread* of tetanus has a tendency to induce the result.

The Appendix also contains very important tables showing that the Contagious Diseases Acts continue to maintain a decidedly reduced sick-rate from these diseases, even in the present limited application of the Acts. The ratio of syphilis per 1000 of force appears in the ports *under* the Acts to have been, in 1860–5, 79·12; in 1866–70, 47·19; in 1871–76, 41·67; while in the ports *not under* the Acts, the corresponding ratios were 100, 84·74, and 93·92.

These figures show conclusively that there has been a very marked diminution of syphilitic disease consequent on the Acts of 1864, 1866, and 1869.

The necessity for these Acts is to be deplored on moral grounds; but those who have raised such an outcry against them ought to consider that, if a paternal government is helpless in preventing prostitution, the next best thing that it can do is to protect the physical health of those sailors and soldiers whose unfortunate circumstances expose them peculiarly to such temptations. We have always thought, moreover, that the needful supervision of the unfortunate females in the carrying out of the aforesaid Acts provides them with opportunities of coming under salutary, moral, and religious influences, and so of abandoning their sinful and disreputable way of life.

The American Practitioner: a Monthly Journal of Medicine and Surgery. Edited by DAVID W. YANDELL, M.D., Professor of the Science and Art of Surgery and Clinical Surgery, University of Louisville; and THEOPHILUS PARVIN, M.D., LL.D., Professor of Obstetrics, and the Medical and Surgical Diseases of Women, College of Physicians and Surgeons of Indiana.

IN the February number, 1878, there is an interesting and well-written article on "Old Age: its Diseases and its Hygiene," by Lunsford P. Yandell, M.D., the father of one of the editors. He died, strikingly enough, on the fourth day of the month in which his paper appeared, and at noon, on the Thursday before his departure, he wrote his son thus: "I should like to see the proof of my article on old ——;" here his hand faltered, and the rest of the sentence was illegible. He was in his seventy-third year, and seems to have been an eminent practitioner in Louisville. When asked shortly before his departure if he had anything special to say, he replied—"No, nothing. I have provided for matters here. David knows my wishes as to that; and as to the hereafter, I have left that all to my Redeemer. I should have liked to live a few years longer, to finish my book, and see how it was received. But that is no great matter."

There are some points of considerable interest in the paper, besides the circumstances which attend its publication. For example, in the seven years, 1838–44, 780 persons in England alone lived beyond their hundredth year; and in 1799, Easton published a list of 1712 instances of longevity extending beyond a century. The greatest age attained by any individual in modern times was 169 years. This was Henry Jenkins, a fisherman. Thomas Parr, a Shropshire peasant, lived 152 years and nine months, having enjoyed perfect health until within a few days of his death. There are passages that might be quoted; but we shall restrict ourselves to the closing paragraphs:—"The changes that take place in the brain as life advances involve necessarily a decay of the intellectual faculties, and with it a failure of the animal spirits, so that old age, unless counteracted by all the happy agencies that can be brought to bear upon it, is apt to become selfish, peevish, impatient, and unamiable. Some of those agencies have been mentioned, but by much the most powerful of them all must be reckoned the promises and hopes of the Christian religion. These, where they have been firmly embraced, remain in the memory of the old man when nearly every other impression has faded from his mind. Instances are related of men who had forgotten the faces and even the names of their children, but who warmed up at once at the name of their Redeemer.

"'In the course of my inquiries (concerning old age),' says Dr Rush, 'I heard of a man of 101 years of age, who declared that he had forgotten everything he had ever known, except his God.' In possession of a strong religious faith, the old man is secure under the accumulating infirmities of age, for he is looking forward to a life near at hand in which infirmities have no place. He observes without anxiety or concern the failure of his mortal powers as he sees them going on from day to day, because he is assured that in a little while these powers will be clothed with immortality. And he approaches the valley of the shadow of death without fear, for he feels that he is leaning on an Almighty arm, and is persuaded that he has an eternal home in the heavens beyond.

"The employments of old men, while they should be such as to fill the mind with gentle excitement, and save it from that weariness of life from which men have sometimes sought relief in suicide, ought never to be of a character to put either the body or the mind on the strain. Violent bodily exertion is attended at that period of life with dangers which have been pointed out. Equally ought the aged to avoid gusts of passion, which involve similar dangers; nor can the studious safely keep up 'that painful thinking which corrodes the clay.' The brain soon becomes fatigued, and sleep, the only restorer of lost nervous energy, must be indulged for longer periods. The sense of fatigue warns the labourer when his mind or his muscles require rest. But the thought with which I would close this essay is that the danger which most imperils the comfort of old age is not overwork, but the want of enlivening occupation."

We observe that the *American Practitioner* has adopted as a motto a wise and characteristic saying of John Ruskin. It is so good and so suitable for both sides of the Atlantic that we shall transfer it to our own page, as a conclusion to this brief review. "Certainly it is excellent discipline for an author to feel that he must say all that he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."

The Chicago Medical Journal and Examiner. February 1878.

THIS seems to us to be a specially good number of this always spirited, high-toned, and able periodical.

A well-told case of extra-uterine pregnancy, by Dr Byford, the chief editor; fifteen cases of tracheotomy in diphtheritic croup, of which six were successful, by Dr Bogue; and a very able critical article on the innocuity of certain physiological secretions in syphilis, by Dr Nevins Hyde—are articles which would do credit to any journal. The reviews and book notices are brief and honest, and the summary is practical.

Report of Grant Medical College, Bombay, for the year 1877.—*Bombay Gazette, 9th February* 1878.

Reports of Grant Medical College, from 1845 *to* 1862, *for* 1865, 68, 69, *and from* 1872 *to* 1876.

Of the Medical Societies of Bombay lately noticed in this Journal,[1] one[2] was the precursor, the other[3] the result, of Grant Medical College; and we now propose to consider the present state, and one or two of the leading incidents in the past history, of this important and useful institution. The Thirty-Second Annual Report, since the opening of the College in 1845, was read by the Principal, Dr Cook, at a public meeting held at Bombay on the 7th February last, presided over by His Excellency the Governor, Sir Richard Temple, and attended by the leading members of the European and Native community. The Report gives a very favourable account of the present condition of medical education in Bombay, and the promise of a future increasing prosperity.

There were during the Session 182 matriculated students, of whom twenty-eight were freshmen. Twenty-nine senior students went up for the final examination for the Licentiate of Medicine and Surgery degree of the University, and twenty passed. During the year two licentiates and four students who had gone to England to obtain an English qualification, passed the examination, and obtained commissions in the Indian Medical Service. "Thus," remarks the Principal, with natural and justifiable pride, "out of the forty-seven gentlemen, who have passed into the covenanted Medical Service of Government during the year, six were from this College—a result which is, I believe, not yet emulated by the sister College of Calcutta, nor, indeed, exceeded by any individual medical school of England. The Indian Medical Service has always stood high in public estimation. The advantages which it offers to natives of this country in pay, position, and prospects is unrivalled by any medical service in the world. They are, it seems to me, advantages without drawbacks. Working in their own country and climate, in the midst of their own relatives, and with none, indeed, of these contingent deprivations which attend the European members of the service, they hold a most enviable position. It is not surprising, therefore, that the service should offer attractions which, in all probability, will be promptly responded to, and that a large number of those educated here will eventually enter it. That the teaching of this College, complete in every detail, is competent to fit the students for successful competition with their European confreres, is evident from the satisfactory results I have noted."

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[1] For September 1877.

[2] Medical and Physical Society.

[3] Grant College Medical Society.

In a subsequent part of the Report, Dr Cook, in a spirit of earnestness which could not fail to impress all whom he addressed, again adverts to the examination for the degree of L. M. and S. in the following words:—"The result, as briefly noted in the earlier part of this Report, of the final University examination has this year been conspicuously good. A larger number than in any previous year of the existence of the College went up for examination, and of these sixty-nine per cent. were successful; further, out of the total number of those who passed, one-half obtained a place in the first class. That this eminently successful result is due to increased zeal and attention to study, and more thorough and careful work in the clinical wards of the hospital, will, I think, be conceded; and it is this which constitutes the chief ground for satisfaction to the college staff. It was my painful duty last year to animadvert on the want of these qualities which many among the students had exhibited. It is with great pleasure, therefore, that I am able on this occasion to award praise when it has been due, while, at the same time, I am encouraged in the hope that the evident success which attends conscientious labour, will be understood and appreciated by the whole body of students, and that each one will strive to sustain the standard of study in his individual case."

As further evidence of progress, we find that in the course of the year a pathological laboratory has been added to the practical resources of the school, provided with microscopes and all the other apparatus necessary for study and research. This event, as appears in the following extract from the Report, was marked by a pleasing instance of that liberality on the part of the Native gentlemen of Bombay, which, as may be gathered from the series of Reports now before us, has been a characteristic feature of the history of this institution :—" It gives me great pleasure to add that, through the ever-ready liberality of Sir Cowasjee Jehangir Readymoney, I shall be able, at the conclusion of the first year of work in this laboratory, to offer a prize to the student who has most distinguished himself in the practical study of morbid anatomy. Sir Cowasjee, on incidentally learning that such a prize was calculated to stimulate application in this direction, immediately made the offer contained in the following letter :—' MY DEAR DR COOK,—As I learn from you that it is thought desirable to offer a suitable prize to students who distinguish themselves in the study of morbid anatomy, as an encouragement to the prosecution of that study, I have the pleasure to offer the sum of Rs.1500 (one thousand five hundred), in Government paper, bearing interest at 4 per cent., to provide an annual prize, to be awarded as you think best to the object in view as above stated.—I am, &c., COWASJEE JEHANGIR.'

" This is only one of a series of generous gifts by which this philanthropic citizen has shown an earnest desire to further the interests of medical education in Bombay. In his very liberal donation to the library, and his still more munificent ones for the foundation of scholarships for the junior matriculated and the Guzerathi vernacular classes, and more recently for the support of the Guzerathi midwife class, he has proved himself a stanch friend to the College. Shut off from the outside world, as he necessarily is by his invalid condition, he thus shows that his interest in the advancement of education, and in the public welfare, is not lessened by the seclusion which, I regret to say, his state enforces; and in his larger gifts to the Ophthalmic Hospital in this city, and the Civil Hospital in Surat, with several Dispensaries in other localities, he attempts to place within the reach of the poor the benefit of medical science, and thus allay the evils of pain and disease in which, to so great an extent, he is himself a sharer."

From plans in the Report for 1846–47, it is evident that the College buildings, which remain unaltered up to the present time, are inadequate for a roll of 182 students. Increased accommodation is required in the lecture rooms, the chemical laboratory, dissecting-room, and in the general arrangements for private reading and study. It appears, however, from the Reports that this subject has at different times been pressed upon the notice of the Government, and that the hope may therefore be entertained that, in all probability, the necessary additions and alterations will before long be effected, for it is disheartening both to teacher and to student to feel that the growth of a great purpose of national civilization, in which they are earnestly labouring, is stunted and distorted by the mere physical impediment of deficient space.

Though the present prospects of medical education in Bombay are most encouraging, it is well to bear in mind that its course in the past has been beset with difficulties, partly caused by social and political conditions of the times, but in part also by administrative errors. To some of these it is necessary to allude, not only in order to render intelligible questions to which we have presently to refer, but also to suggest a caution in regard to the future, and a hope that defects, which are believed still to exist, may be considered and speedily removed.

The organization of the University of Bombay on the model of the University of London commenced in 1858, and in 1860 Grant College was affiliated with it, and, consequently, the power of granting medical degrees was transferred from the College to the University. When Grant College was established in 1845, the Session, the Terms, and periods of examination, were fixed with great care, so that the courses of anatomy, chemistry, medicine, surgery, physiology, and materia medica, might be complete and continuous; and, above all, that there should be no interruption of the Winter Term, from 1st November to the 15th of March, by holidays, examinations, meetings, or any other purpose, because it is the season when the energies of teacher and of student are at their best, and is the only period, in a tropical country, when practical anatomy can be pursued with advantage and comfort.

In 1851, before the first final examination was held, a Board of Examiners, partly constituted of Professors of the College, and partly of selected Medical Officers unconnected with the College, was formed. The examinations—written, oral, and practical—were conducted publicly, and with much formality. Clinical examinations in medicine and surgery enforced, at a time when they were neglected by all examining bodies elsewhere in the British empire, were prosecuted with a thoroughness and method which have not been reached, nay, have not been attempted, by examining bodies of the present day.

The course open to the Senate of the University was sufficiently clear,—to leave the College on the vantage ground, as to methods of instruction and examination, which the experience of fifteen years, and the verdict of success, had amply confirmed, and simply to change the title of the certificate of fitness from "Diploma of Grant Medical College," to that of degree of "Licentiate in Medicine and Surgery of the University of Bombay," and to take the place of the Government in nominating the Examining Board. But, instead, the Senate—true to the incapacity for adaptation which has so frequently characterized the grafting of British institutions on an Indian stock—disregarding the great difference in the climate and the social and educational circumstances of London and Bombay, adopted the methods and periods of medical examination of the University of London, and thus effected an alteration in the

Session and Terms of Grant College, and an abrogation of its methods of test examination. If this be still the state of matters, it may be reasonable to inquire whether it might not be well for the Senate of the University to reconsider the question, and determine it on the principle that everything should give way to efficiency of instruction and test examination in Bombay, irrespective altogether of other places and circumstances.

In the medical system of India there is a class of assistants for the subordinate duties of native civil and military hospitals, and in the marching and field operations of detachments of native troops. These native assistants are a useful class of public servants; but, in the Bombay Presidency, under the strain of the mutiny of 1857–58, a deficiency in respect to number and systematic training was experienced, and the necessity for devising means of removing and preventing such defects in the future became very obvious.

In the Bengal Medical College there had existed, for several years before the period to which we now refer, a Vernacular department for the education of the native hospital assistants of the Bengal Presidency. The number, considerable at the commencement, increased so rapidly that, in 1860, it had reached to 275, and in 1874, to 937. But, even in 1853, from the inroad which this class of pupils made on the accommodation and practical means of the Bengal College, this advantage to the subordinate native medical department entailed a manifest and great injury on that higher class of students who were qualifying for independent practice, and for whose wants, even, the practical appliances of the school were insufficient.

In 1858, when the deficiencies of the subordinate native medical department of Bombay had been realized, and with the view of protecting Grant College from the evils which had befallen the College of Bengal, it was proposed to form a Marathi medical school in connexion with the civil hospital at Poona or Satara, and a Guzerathi medical school in connexion with the civil hospital at Ahmedabad, but the time was unsuitable for pressing the measure.

In 1860, owing probably to the transition state of the department of public instruction and the larger demands of an increasing civilization for an educated agency, the number of undergraduates declined, and a vernacular branch was added to Grant College. The objects were two:—1. To improve the efficiency of the native subordinate medical department; 2. To provide a class of practitioners for the smaller provincial towns. By this measure a dual government was created: the Principal of the college, in respect to the undergraduate division, was subject to the Director of Public Instruction, but, in respect to the vernacular class, to the Director of the Medical Department. During the eight following years Grant College languished, and the vernacular branch—in favour with the authorities of the college, the department of education, and the local government—evinced a tendency to usurp the place of the higher and original purpose of the institution.

In 1868 the class of undergraduates, as well as the vernacular pupils, began largely to increase, and since then there has been, in consequence of overcrowding and the rivalry of conflicting interests, a constant struggle to maintain the efficiency and reputation of the school. But these adverse influences, foreseen and foretold in 1858 and again in 1860, will now happily cease; for it appears, in the impressive address which His Excellency the Governor, Sir Richard Temple, delivered, in acknowledging the Report, and after presenting the several honours to the successful candidates, that it has at length been decided to remove the vernacular classes from Grant College, and to set up two vernacular medical schools, one in the Deccan, attached to the David Sassoon Hospital at Poona, and the other at Ahmedabad, for the benefit of the province of Guzerat, thereby relieving the overcrowding of Grant College, and leaving it as a superior college only. Sir Richard Temple very fully discusses the second object of vernacular medical education—the provision of a class of practitioners for the smaller provincial towns. He evinces a just apprehension that the shorter curriculum of medical study, and the less perfect preliminary education of this class, might lessen the confidence of some members of the community in its professional fitness, or with others, little acquainted with the subject, might tend to bring down the estimate of the highly educated licentiate to the lower level of the vernacular class. This latter risk will doubtless be materially lessened when the two classes have ceased to be educated at the same school. His Excellency successfully explains that, for a very long time at least, there cannot be sufficient inducement for the educated licentiate to settle in the smaller towns and the remoter districts of the Presidency. He also truly insists that constantly recurring seasons of epidemics or of famine, the explanation and application of the elementary laws of public health, and the extension of vaccination throughout the length and breadth of the land, are conditions in India which call for the continuous assistance of Government, and of the benevolent and wealthy members of the community. It is therefore necessary, it is justly argued, that there should be ready at hand an agency lower in qualification than the licentiate, yet sufficiently educated and trained in medicine to be competent to meet those pressing and frequent requirements. It is believed, with justice we apprehend, that with adequate supervision as to the continuance of fitness and as to moral character this vernacular curriculum will sufficiently qualify for these purposes, and will protect the people from the uneducated empirics, into whose hands they would otherwise fall. In his address to the students, the Governor gives expression to his high sense of the moral attributes required in the Profession of Medicine,—truly a great theme, wherever medicine is taught and practised, but especially so when addressed to those who are daily exposed to the influences of a lower civilization, and are unprotected by the shield of the highest moral and religious obligations.

We regret that our space does not permit of our quoting largely from this eloquent and earnest address; we must rest satisfied with the words with which it concludes :—" Well, then, gentlemen, last of all, you ought to have enthusiasm for your work. Remember there is a grand phrase invented in this generation which is called the Enthusiasm of Humanity. I am not here to speak to you on matters of religion, but I may say that this enthusiasm of humanity is claimed to be one of the characteristics of Christianity. That is a practical matter, which must come home to your hearts and consciences whatever your religion may be. It is a part of your religion as much as it is of ours. The enthusiasm of humanity means, among other things, the keen anxiety for prolonging the lives and preventing the sufferings of even the humblest of God's creatures, even the poorest and most destitute of mankind. You have yourselves seen within the last few years instances of what may be called the enthusiasm of humanity in the conduct of your Government. There were hundreds and thousands of the poorest and most destitute people, those people whose lives could not give political support to the State, whose existence was materially perhaps of not so much importance as the existence of the strong-handed of the yeoman classes; but, nevertheless, see what immense organization, what gigantic labours, what vast expenses were brought to bear by Government for the sake of saving these people! That is an instance of the enthusiasm of humanity, so what Government has done upon so large a scale you ought to do upon a smaller scale to the best of your abilities. You ought to prolong life, you ought to prevent disease, you ought to assuage suffering, and in so doing you ought to consider yourselves to be among the ambassadors of British benevolence, and among the messengers of modern civilization."

We echo this noble utterance, and congratulate Grant College on the course of usefulness and honour which now lies open before it, — the certain fruit of able administration, an appreciative Government, and a grateful people.

Practical Gynecology: A Handbook on the Diseases of Women. By Heywood Smith, M.A., M.D. Oxon. J. & A. Churchill: London: 1877.

This work is a laudable but by no means successful attempt to write a primer on the subject of gynecology. Such a work should, if possible, be brief, correct, and clear—conditions that are extremely hard to fulfil when one undertakes to compress not only gynecology proper, but the puerperal diseases, into 164 pages of small size and large print. In some of its headings the work is too brief, in others much too profuse. For example, we see no reason to include in such a book any lengthened account of its operation of ovariotomy, for which every one, who would take the responsibility of such an operation, would be certain to consult a larger work. Many also, if not most, of the definitions, etc., are extremely loose and inaccurate. See one among many—the diagnosis of pelvic peritonitis, given at page 41, where the whole paragraph is a complete jumble. One is also struck with the extreme frequency with which everything that has been done—good or bad—by Dr Protheroe Smith is trotted approvingly to the front, till one learns that this gentleman is the father of the author. Once one discovers this fact he is inclined to respect the author's filial regard, but to suspect his judgment and taste.

The methods of treatment in general, and especially in endometritis and so-called stricture of the cervix, seem to us far too meddlesome and risky. But the author, unfortunately, we think, for the welfare of the other sex, is not singular in his predilection for an heroic treatment of uterine ailments. Do these busy operative gynecologists never reflect how much better their patients often would be if they would only let them alone? Is there not room in gynecology, as well as otherwise, for the application of the quotation—"Better to bear the ills we have, than flee to others that we know not of"?

The most objectionable part of the work, however, is that which deals with diseases arising in connexion with parturition. There is not a single paragraph in that portion of the book but is open to serious objection, especially in regard to the practical rules. We therefore regard that section of the work as practically dangerous to place in the hands of any one not sufficiently master of the department to be able to detect its manifest errors.

After saying so much, our readers will not be surprised to learn that our author, in direct contradiction of all recent researches and observations, defines puerperal fever as a continued contagious fever affecting puerperal women at any time within two weeks after delivery; or that plugging the vagina carefully through a speculum is recommended in placenta prævia as the regular procedure when the os uteri is not sufficiently dilated for delivery!!!

But we need not multiply examples of this kind.

We have looked over the book anxious to discover its merits, if any, and to tell our readers of them. But we lay it down, greatly disappointed. We cannot recommend it as likely to be useful for the purpose it is intended to serve.

It is an attempt to pave a sort of royal road to this branch of learning, and, like similar efforts in other departments, is, in our opinion, almost, from the necessities of the case, doomed to be a failure.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVII.—MEETING V.

Wednesday, 6th March 1878.—Professor SANDERS, *President, in the Chair.*

EXHIBITION OF PATIENTS.

I. *Mr Annandale* showed—(1.) a PATIENT who a few weeks ago had suffered from WRITER'S PALSY. His medical attendant had tried strychnia internally and galvanism without effect. Having studied Bianci's paper on the subcutaneous injection of strychnia, he resolved to try the method. Before beginning the injections the patient suffered from—1. Want of power in hand; 2. Spasmodic flexion of thumb when writing; and, 3. Pain in back of neck. Nine subcutaneous injections had been made into the flexors and extensors of forearm, with the result of complete restoration of power, removal of pain at back of neck, and partial improvement of flexion of thumb. A splint was now being used to remedy the last. Specimens of the patient's handwriting before and after treatment were shown. Prof. Annandale explained that the hypodermic injection consisted of equal parts of liquor strychniæ (B. P.) and water. Of this 6 mm. were injected every second day, the dose being increased by 1 mm. till it amounted to 12 mm.[1] (2.) A BOY on whom he had operated for EXTROVERSION OF THE BLADDER. (3.) A BOY who had suffered from FLEXION OF BOTH THIGHS ON ABDOMEN, and LEGS ON THIGHS, as the result of hip-disease of left side, the contraction on the right side being due to muscular contraction. He therefore divided the contracted tendons on the right side and applied gradual extension, with the result of straightening the limb. On the left side, where there was anchylosis of the hip-joint, he made a free incision and then found the neck of the femur almost gone, so that he was compelled to take away a wedge-shaped piece of bone from the situation of the trochanter major. The result had been that the boy had now a straight limb and a movable joint instead of an anchylosed one, as was often the case after Adams's operation.

EXHIBITION OF PATHOLOGICAL SPECIMENS.

II. *Mr Spence* showed—(1.) A specimen of TUMOUR at bend of forearm in supinator longus and long extensors of radial side of carpus. Ten years ago the patient had a tumour in the small triangle formed by the brachialis anticus and supinator longus.

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[1] See *British Medical Journal*, 19th January 1878.

Four months ago she had pain, swelling, and rapid growth at site of the present tumour, all pointing to a malignant formation. Amputation was therefore performed. On examination the tumour was found to be highly vascular and to implicate the radial nerve. Microscopically it was a spindle-celled sarcoma. (2.) An ARM removed from a young child owing to a severe burn. He had been at first in Sick Children's Hospital, where he nearly died from the amount of sloughing. When removed to Mr Spence's wards the arm was slung in a trough of warm water, which allayed the irritation and obviated the necessity for dressing, the changing of which had always been attended with bleeding from the vascular granulations. As the patient was daily losing strength, owing to the discharge, the parents ultimately consented to amputation being performed. A minute injection of the part to show the vascularity of the granulating sore had been made by Mr A. B. Stirling, but it had now to some extent lost its beautiful appearance.

III. *Dr W. A. Jamieson* showed a convenient form of LEADEN TUBES to contain croton-oil. The tubes were similar to those used by artists for their colours.

IV. *Mr Annandale* showed—(1.) an ŒSOPHAGEAL FIBROUS POLYPUS with osseous points in it It protruded occasionally into patient's mouth, but gave him no inconvenience, so that after its removal he rather missed his "food-slide" as he called it. To remove it Mr Annandale, with the assistance of Professor Maclagan, who had been consulted in regard to the case, first administered an emetic of sulphate of zinc, so as to bring about its protrusion. On digital examination it was found to have a neck two or three inches long. Round this an ecraseur was passed and the tumour then removed. The patient made a perfect recovery. (2.) Mr Annandale also showed a similar larger specimen from the Anatomical Museum. In this case the patient died from suffocation. (3.) An example of three large LOOSE CARTILAGES removed from the knee-joint by free incision under Listerian antiseptics. One was 3 in. in diameter, the others 2 in. and 1½ in. respectively. The smallest one had been fixed, incompletely, however, by Mr Syme twenty-five years ago. The patient made a perfect recovery without any rise of temperature whatever. On microscopic examination they were found to consist of fibro-cartilage with a nucleus of bone and cartilage.

V. *Dr Claud Muirhead* showed PATHOLOGICAL SPECIMENS from a patient who had died of pernicious anæmia. The left ventricle of the heart was remarkably fatty, particularly the musculi papillares; the aorta was extremely small; the lungs, as well as all the other organs, were extremely anæmic. He hoped to give fuller details on a future occasion.

VI. *Dr Craig* then read NOTES ON A RARE CONGENITAL

MALFORMATION OF THE LEG, WITH AN ANATOMICAL DESCRIPTION OF THE PARTS, by *Johnson Symington,* M.B., M.R.C.S., Eng. *Dr Craig* mentioned that this paper contained a description of the leg of a child which he exhibited to the Society on the 6th of December last. The leg had been carefully dissected by Dr Johnson Symington, Demonstrator of Anatomy in the University of Edinburgh, and the anatomical description had been verified by Professor Turner, so that members might rely on the perfect accuracy of the anatomical description of the malformations which occurred in the leg, some of which are probably unique, and all are possessed of great interest to surgeons and anatomists. The limb was well nourished and the thigh was normal. The knee-joint was slightly flexed. The lower third of the leg was bent inwards. The tibia, on being traced from above downwards, appeared to end in a sharp point about two inches below the knee, and immediately over the sharp end of the bone, on the front of the leg, there was a peculiar condition of the skin, somewhat resembling a navel, as if the sharp end of the bone had at one time protruded through this opening. The fibula could be felt along its entire length, but its lower end curved inwards. At the knee-joint it appeared to be loosely connected with the tibia. The lowest part of the limb was the external malleolus, and over this point there was a well-marked bursa, although the child only lived twelve hours after birth. The position of the foot resembled an extreme case of talipes varus, due, however, to the bend of the leg, and the mode in which it was connected with the fibula.

Dr Symington gave a minute description of the anatomy of the parts, and pointed out that there was a curious arrangement of many of the muscles both of the leg and the foot, due in part to the non-development of the tibia. The tibialis anticus he specially noticed as being quite unique in its attachments, inasmuch as it formed the chief part of the four tendons of the deep flexor of the toes. Several of the muscles were absent, whilst others were abnormal in many particulars. The knee-joint was perfect, except that the head of the fibula loosely articulated with the tibia and also with the semilunar cartilage of the knee-joint. There was no trace of the tibia at the ankle-joint, and the fibula, which was thicker than normal, articulated with the astragalus not unlike the way in which the tibia usually articulates with that bone.

Dr Craig stated that the anatomical description of this limb proved that several of the malformations found in this leg were probably unique, and raised important questions in regard to the causes which produced such malformations. He stated, in regard to the peculiar condition of the skin over the end of the tibia, that a similar condition existed in the skin immediately over the tip of the coccyx, and that in both cases this had been produced by similar causes, and expressed his belief that in both cases the bones had at some period of embryonic life protruded. Dr Craig next discussed the all-important question, what should have been done to the leg to render the limb useful to the child if he had lived. He stated as his opinion, that the best plan would have been amputation below the knee-joint. This was the only procedure which could have rendered the limb useful, had the child lived. In conclusion, Dr Craig mentioned that as the limb possessed malformations which were of great interest to surgeons and anatomists, some of these malformations being probably unique, he would hand the preparation over to the Museum of the Royal College of Surgeons of Edinburgh, that members of the profession and anatomists might have an opportunity of consulting it at any time.

The President thought they were indebted to Drs Craig and Symington for their account of this curious malformation. He wished to know if there was any history of injury to the fœtus *in utero.*

Dr Craig said there was none.

Mr Annandale remarked on the interest of the case and its value, owing to its dissection by anatomical authorities. As to the cause, he believed it had occurred in early pregnancy. He had once seen a new-born child with a perfectly united compound fracture. A difficulty in this explanation was the absence of the lower end of the tibia. It might have been absorbed. Had the child lived, amputation of the leg, when it was five or six years of age, would have been the best treatment.

Mr Chiene thought that disease of the lower part of the tibia with subsequent absorption was a more feasible explanation than the accident theory.

Dr Symington did not think that Mr Chiene's explanation was a tenable one, as it did not explain the partial absence of the tibia.

Dr Angus Macdonald asked if any of the other organs were examined. It was curious how the sacrum was also abnormal. This pointed to a deeper explanation in the shape of some cachexia or diathetic peculiarity.

Mr Annandale, in regard to the changes in the articular surfaces, wished to observe that such were often found. He had, on dissecting a negro whose entire radius had been excised, found the carpus articulating with the radial surface of the ulna.

Drs Kirk Duncanson, Wyllie, and *Haycroft* took part in the discussion.

Dr Craig replied.

VII. *Dr Allan Jamieson* then read A CASE OF VERY EXTENSIVELY DIFFUSED LUPUS ERYTHEMATOSUS, which appears at p. 1006 of this Journal.

Professor Stewart thought all would agree as to the interest of the case and value of the paper. He wished to know if Rindfleisch was right in saying that the new growth began in the sebaceous glands.

Dr Moinet wished to know if patient was rheumatic or gouty. Arsenic would be useful, he thought.

Dr Wyllie remarked that Dr Jamieson was of opinion that the use of chemicals had retarded the healing. Perhaps they really caused the disorder. Its occurrence, however, on the toes was against this idea.

Dr Jamieson said, in reply, that in one specimen the cells were about the sebaceous glands. The man was in perfect health and had no gout. Arsenic had been tried in Vienna and found of no use. As to what Dr Wyllie had said, Mr Hutchinson had recorded a case where no chemicals were used.

Dr London of Carlsbad showed photographs of patients with lepra and elephantiasis, whom he had treated in his Hospital at Jerusalem. He had seen *emplastrum mercuriale* used in such cases as Dr Jamieson's, and with good success.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING VII.

Wednesday, 27th February 1878.—Dr WILSON, *President, in the Chair.*

Dr Macdougal, Carlisle, and Dr Serdukoff, St Petersburg, were admitted Corresponding Fellows.

I. *Dr Charles Bell* read a paper, entitled PLACENTA PRÆVIA, OR UNAVOIDABLE HÆMORRHAGE, which appears at p. 1013 of this Journal.

Dr Macdonald stated that, while gladly admitting the great amount of important information and historical details which Dr Bell had compressed into his paper, and while, at the same time, expressing the pleasure with which he had listened to the paper, there were numerous points in the various positions taken up by Dr Bell that he felt bound to dissent from. Placenta prævia was a subject so vast, and the disputed points in it were, many of them, still so far from solution, that it could scarcely be expected that unanimity should exist regarding it in a Society such as this, where each member fearlessly upheld whatever views he thought most correct on the subjects discussed. He might be allowed to remark in the outset on the historical aspect, that Dr Bell, while referring to the justly high claims of Paul Portal, had omitted to notice that Schacher of Leipsig, who wrote only a very few years after Paul Portal, was the first to describe the true anatomy of placenta prævia, in a dissection which he made of a patient who died of placenta prævia. The labours of Von Hoorn, a pupil of Paul Portal, were also very important, and had been omitted; whilst no notice was taken of the fact that Smellie knew well the nature and treatment of placenta prævia, though the labours of his French contemporary Levret were duly recorded. It is, however, the fact that the general profession in this country were not acquainted with this accident till the publication of Dr Rigby's paper, referred to by Dr Bell. This was in 1775. As to the relation between accidental hæmorrhage and the hæmorrhage arising from placenta prævia, he felt bound to differ entirely from Dr Bell. He held that the bleeding of placenta prævia before the onset of uterine contractions was always of the nature of accidental hæmorrhage; and that only after the lower uterine segment became stretched in connexion with the development of the cervix uteri, under the action of the uterine contractions, an occurrence usually restricted within ten days before, and at times even to the onset of labour, did the hæmorrhage become a *necessity*, *i.e.*, unavoidable. He thought much unfortunate mystification had arisen in consequence of this, which he regarded as a physiological fact, not being generally admitted. He could not follow Dr Bell in his difficulty of understanding how the conditions favouring accidental hæmorrhage were not more pronounced when the placenta is low placed than when it is higher up, as given in his quotation from Dr Duncan. It must be remembered that the contents of the placental vessels are subject to the ordinary laws of hydrostatics, and that every point, that is, say an inch vertically deeper placed than another point in the placenta or uterus, must be subjected to a pressure greater than the latter point equal to a column of blood an inch high, no matter in what direction its surface is distributed. Then, however little the inner os may dilate during pregnancy, its lumen must always present a more or less unsupported surface, and one, too, as already said, subjected specially to great tension from its deep situation. He was extremely glad while making these critical observations, in which he was compelled to differ from Dr Bell, to be able to say that he entirely agreed with him in his statement that the placenta is never attached to any part of the canal of the cervix, but only over the inner os and on the lower uterine segment. As to the view of those authors who hold that the hæmorrhage arises from disproportion between the growth of the placenta and the lower uterine segment in the latter months, and which is held by Dr Bell to be correct, he was sorry to say that he had never been able to see convincing proof of its truth. If such were the case, we should always have bleeding in placenta prævia during the latter three months, and yet such is not found to be the fact. The very last case he was called to deliver on account of placenta prævia was one in which the patient, though close upon the full time, had no hæmorrhage whatever till the night before she was delivered. It will not do to say that such bleedings took place, but did not find exit, for then we should find thrombosed and atrophied portions of the placenta after delivery, as indicative of these, and yet such are not found except very rarely.

He could not see how the cotyledonary arrangement in the placenta had any bearing in the production or the prevention of hæmorrhage; and so far as the statement that Dr Bell made, that the uterus in the higher parts of its body shortened more in the perpendicular direction than the lower segment did when it contracted was concerned, and thus simply compressed the cotyledons, he had to state that he thought the reverse was the fact; for though the uterus was distended and stretched transversely in the lower segment during labour, it was unquestionably contracted in the perpendicular direction. He could not help feeling that Dr Duncan's views had been, unintentionally no doubt, misrepresented by Dr Bell when he stated that Dr Duncan believed that the bleeding in placenta prævia during labour was from the placental and not from the uterine surface. Indeed, he knew well that Dr Duncan was at one with Dr Bell in maintaining that the main bleeding came directly from the uterine surface, and not intermediately through the torn-off placenta, which, as stated by Duncan, by Spiegelberg, and others, became rapidly thrombosed and incapable of bleeding. He could not help feeling that Sir James Y. Simpson, in taking up the idea that the bleeding was from the free placental surface, was led to this view from the necessity he found himself placed in to give some explanation of the treatment by complete separation, to which he had rashly become committed. Dr Duncan, in the remarks quoted in this reference by Dr Bell, was, he rather thought, not then referring to hæmorrhage, when a considerable portion of the placenta was opened into, at all, but was speaking of the hæmorrhage arising accidentally before labour, when only a single twig of an artery, or a single placental sinus possibly, was torn. As to the state of the lower uterine segment during the latter months, and the relation between it and the cervix, he felt constrained to say that Dr Duncan's views, animadverted upon by Dr Bell, were not at all singular. They agreed with those of almost all Continental obstetricians of the present day, with the sole exception of Bandl, and were in accordance with those of the majority of British authorities. He (Dr M.) had endeavoured last summer, by presenting before this Society the section of a uterus of a woman who died suddenly after she believed herself in labour, and certainly at the full time, to show that the cervix was intact, and in no sense used up in the amplification of the lower uterine segment. This using up of the cervix he held, and endeavoured to prove in this paper, did not usually commence till ten or fourteen days before labour, and frequently not till the onset of labour pains; and it was not till this commenced that such an amount of *stretching* of the placental attachment took place as led to tear of the placenta, and consequently produced unavoidable hæmorrhage. He also thought that Dr Bell was wrong in denying that there was any tendency towards a physiological limit of the hæmorrhage in placenta prævia. He (Dr M.) thought there was, and that when the separation of the placenta resulted from physiological stretching in the transverse direction, and shrinking or contraction of it in the longitudinal direction, that the uterine surface was generally so altered as to prevent further bleeding from the bared surface of the uterus. Except this were true, he could not understand how, in cases of partial presentation of the placenta, when a lappet of the organ merely projected downwards within,—what Barnes calls the cervical zone, and Duncan, the spontaneously detaching area,—the bleeding, though at first very profuse, after the cervix had been dilated to a considerable amount, so frequently ceased altogether. He accepted, in explanation of this fact, the mechanism propounded by Duncan, viz., that the bleeding was caused by the separation of the placenta, resulting from the necessary stretching required to transform the hemispheroidal lower uterine segment, with the inner os as its pole, into a horizontal circular band of the uterine body, whose diameter should be able to give passage to the child's head, *i.e.*, should be of about 4½ inches. When that amount of diameter was reached, there was no further need of, or tendency to, placental separation, and consequently the tendency to bleeding by further tearing ceased. And if by this change of surface in the lower uterine segment—call it stretching in the transverse direction, with contraction or shrinking in the longitudinal, or whatever else you please, had once taken place, and the bleeding had been arrested by nature's method of separation, the hæmorrhage must necessarily cease. For the establishment of correct views on this point, he thought we owed much to the labours of Barnes and Duncan, but especially to those of the latter author, inasmuch as he, not only more clearly than any other writer, had explained the mechanism of separation, but by actual measurements had shown that the requisite amount of dilatation was reached when a portion of the lower uterine segment, measuring meridionally on the organ a distance of 2½ inches from the inner os, was converted into a cylindrical segment of the genital passage. He thus freed us completely from all the difficulties regarding zones, which were extremely hard to define, and at the same time proved the spontaneously detaching area to be limited within a measured space. But while holding, that when the separation was effected by natural forces, there was a tendency to spontaneous arrest of hæmorrhage, he could not agree with Barnes in his practical suggestion to separate the placenta from the cervical zone, as he calls it, by art. He considered such a proceeding to be both extremely uncertain and dangerous, as we could not be sure that bleeding would necessarily cease from the surface of the uterus thus laid artificially bare; and, moreover, the process of separation was certain to be accompanied with *profuse* hæmorrhage. He would not detain the Society with any further remarks, though he should have liked to have made some observations on the treatment proposed, as he thought he had trespassed too much upon their time already, but would simply conclude by again stating that, though obliged to dissent from the views of Dr Bell on many points, he had listened with much pleasure to the paper, and felt the Society was much obliged to Dr Bell for the ability and trouble he had expended upon this ever interesting and ever new subject.

Dr Keiller said we were indebted to Dr Bell for his elaborate paper. He felt he had much to say on the subject of placenta prævia, which had been so often discussed, and yet so seldom had been anything like mastered. The present meeting was comparatively a small one, and if anything new could be by any chance brought about through a full consideration of Dr Bell's historical and otherwise interesting communication, it would be well to postpone its discussion until the next meeting, when several absent members might have an opportunity of giving the Society the benefit of their experience.

Dr Ritchie desired, while expressing his satisfaction with Dr Bell's paper, and after the observations of the other speakers, to offer a few remarks on treatment. He agreed with Dr Bell as to treatment, for he did not consider turning the only method of dealing with these cases, but that each case should be treated on its own merits. Most of the candidates who presented themselves for examination for the licence of the College of Physicians gave the same reply when questioned as to treatment—first plug and afterwards turn. This reply seemed to indicate that teachers dwelt upon these two points, to the exclusion of other means. He was therefore pleased to hear Dr Bell's views upon it, for, when a younger man, following that treatment, he recollected having once lost a child in partial placenta prævia by turning, which he now believed might have been saved had he employed the forceps.

MEETING VIII.

Wednesday, 13th March 1878.—Dr WILSON, *President, in the Chair.*

I. *Professor Simpson* exhibited a CHANNELLED POLYPUS, similar to those Dr Underhill had described lately to the Society. The woman, a patient of Dr Craig's, was sixty-four years of age, and unmarried. She had ceased to menstruate for many years, but had for sometime become subject to frequent losses of blood. The polypus was attached to the posterior lip of the cervix, and was removed by scratching through its attachment with the nail. A good deal of bleeding attended the operation, although the vessels were torn instead of being cut across, so that a pledget of cotton, soaked in perchloride of iron, had to be applied to arrest it.

II. *Professor Simpson* exhibited AN ABORTION about the ninth week. The patient had before been delivered of twins, and when carrying these, she had been also threatened with abortion. On this occasion he had been requested to see her on account of hæmorrhage. The uterine mucous membrane had come away entire, and the ovum could be seen covered by the decidua reflexa on the surface of one of the layers, which might correspond either to the anterior or the posterior wall. It would be observed that it was situated low down near the os, showing a tendency to placenta prævia.

III. *Professor Simpson* also showed the PLACENTA from a patient dying of phthisis in the end of the sixth month. It had been situate low down, as could be seen from the tear in the membranes. There was slight hæmorrhage in the early part of the labour, and the margin of the placenta was felt close to the inner os; but it was not so decidedly prævious but that the lower part of the uterus became sufficiently dilated for the transmission of the small ovum without much detachment of the placenta. The cord presented between the membranes and the head; but the patient was carefully placed, so as to keep it from compression between the head and the passages, and as the membranes did not rupture till the head was ready to be expelled from the vulva, the child was born alive, only to live a few hours.

IV. *Dr Macdonald* exhibited a large CAULIFLOWER EXCRESCENCE which he had removed from the cervix with the galvano-caustic wire. No bleeding took place during or after the operation. He was somewhat doubtful he had been able to remove absolutely the whole of the disease. The patient had felt no pain since the operation.

V. *Dr Macdonald* showed a modification, by Mr Sanctuary, of Dr Duncan's FORCEPS, an ingenious contrivance by which the first blade was prevented from rotating by a movable bar attached to the handle of the left blade. See Journal for April 1878, p. 958.

VI. Discussion on *Dr Bell's* paper on PLACENTA PRÆVIA was then resumed.

Professor Simpson regretted that he had not enjoyed the privilege of listening to Dr Bell's communication, and hoped that care would be taken in after years not to allow the Royal Medical Society's dinner to fall on the night of our Obstetrical Society's ordinary meeting. He felt at a loss how to accept of the President's invitation to resume the discussion on such a great and important subject, which seemed to have been very exhaustively treated in the paper by Dr Bell and the remarks that had been made on it. It was one of the most important subjects in midwifery, not because of the great frequency in practice of this form of complicated labour—for it probably did not occur much more frequently than once in a thousand cases—but because of the great immediate danger that attended it, both to the mother and child, and the urgent call that was made on the obstetrician for all the resources of his art. He gathered from the report that the subject had been fully gone into in all its bearings, both theoretical and practical, and would only offer an observation or two on some points that had struck him while the minutes were being read.

He would like, for one thing, to enter his caveat against the universal acceptance of the dogma insisted on by Dr Macdonald, that the length of the cervix uteri remains unchanged throughout pregnancy, and that no expansion of its canal took place from above except at the close of gestation and as a result of uterine contractions. When Dr Macdonald made the communication to the Society which he had referred to, he (Dr Simpson) took occasion at the time to point out that the cervix of a uterus in the sixth month of pregnancy, which he had laid before the Society, was larger than the full-timed cervix in Dr Macdonald's preparation by three-quarters of an inch to one inch. And he was inclined to believe that the shortening of the cervix by expansion from above during pregnancy, so as to form a cup into which the lower portion of the ovum, invested by the remains of the decidua reflexa, would be received, did sometimes, at least, take place, from what he had observed not very long ago in the case of a patient with a contracted pelvis, in whom, for the second time, he was inducing premature labour. In this case, when the finger had passed through the cervical canal to a distance, as he had judged, of more than an inch, and the point of the finger had passed over the circular ridge that at first he took for the os internum, he found the membranes already detached all round the lower portion of the cavity in which the ovum was lying. It was only the thirtieth week of gestation, and there had been no attempt at uterine action; but the finger had to pass a good inch beyond what felt like the rim of the os internum before it came upon the circle of attachment of the ovum to the uterine walls, to what, in this case, was probably the already widely expanded os internum. Quite recently a paper had appeared in the *Archiv für Gynækologie*, in which Küstner demonstrated very satisfactorily on several gravid uteri short of the full term such an expansion of the upper extremity of the cervical canal—expansion forming a cavity of size sufficient to contain the presenting portion of the child's head. Küstner had even justified the observations of Roederer on this point by examination of old preparations in the Halle Museum. If, then, such an expansion of the supra-vaginal portion of the cervix occasionally took place in ordinary cases, he thought we must still admit the possibility of its occurrence in cases of placenta prævia. So that, though the greater number of the premature hæmorrhages associated with placenta prævia were really accidental, there might still be some that deserved the familiar Rigby designation of "unavoidable."

He (Dr S.) had said he could not follow the discussion into all the points that had been raised on this important theme, but he begged to be allowed one or two remarks further on the subject of treatment. Dr Macdonald seemed to have homologated in all points the theories enunciated by Dr Matthews Duncan, and had also followed that author in his rejection of artificial separation of the placenta in any case of hæmorrhage associated with placenta prævia. But no amount of hypothetical argumentation could convince him that he had not seen good effects in the way of temporarily arresting the hæmorrhage by detaching the placenta with the finger, in anticipation of the spontaneous detachment that must have occurred whilst the lower segment of the uterus was being dilated into a tube of sufficient width to allow the transit of the fœtus. Now, whilst the observations of Duncan were of the highest value in throwing light on some points in connexion both with the mode of production and the mode of arrest of the hæmorrhage, he believed that Duncan erred in attributing the escape too absolutely to the already bared uterine surface, and so failing to appreciate the hæmorrhage that takes place where blood-channels are partially torn, and that must cease when the same vessels are completely divided. They had only to consider the relation of the maternal vessels to the individual cotyledons of the placenta to understand how hæmorrhage would go on whilst a cotyledon was in process of detachment, and would cease when the detachment was accomplished. As Hyrtl had shown that the fœtal portion of each cotyledon was vascularized by its own special umbilical artery or arteries which had little anastomosis with the vessels of the neighbouring territories, so Professor Turner had demonstrated to the Society the tendency to independence of the maternal blood-supply in each individual cotyledon. If we thought of the hæmorrhage taking place, for example, as Duncan admitted that it sometimes did, from the tearing open at some point of the sinus of Meckel, then it was clear that, if that sinus really ran in an unbroken circle round the margin of the placenta, the blood would continue to flow from the torn vessel as long as any part of the placenta continued to receive blood from the uterine walls. This important vessel, however, was not a circular sinus in the sense that it formed a continuous channel round the placental border, but was interrupted at short intervals, especially where it met the edges of the thick inter-cotyledonary trabeculæ. When the sinus at the border of a special cotyledon lying close to the os uteri was torn open, blood must necessarily flow from it so long as the curling artery of the uterus feeding that cotyledon poured its contents into the caverns which were in communication with the lacerated portion of the Meckelian sinus; and the hæmorrhage could only cease when that arterial stream was cut off, perhaps only after all the exit veins of that special cotyledon had their connexion with the veins in the muscular wall of the uterus completely severed. There were, therefore, the most satisfactory theoretical grounds for continuing, in appropriate cases, a line of practice which he had himself seen useful, and which he believed other Fellows of the Society must have found to stand them in good stead in lessening the dangers of this formidable complication. He was far from advocating artificial separation of the placenta as the proper treatment in every case of placenta prævia; but he was not prepared, on the other hand, to regard it as universally inappropriate, and he could even quite well conceive a case, though he had not yet met with one, where the conditions were such as to render the complete separation, according to the restrictions advocated by Sir James Simpson, the safest line of treatment for the patient. In the general run of cases, the most efficient aid to labour was afforded by the early employment of the dilating indiarubber bags, which he always used, of the fiddle-shaped pattern, according to Barnes; but each individual case demanded special treatment, and in the same patient it was often necessary to carry out one line of treatment one hour, and to follow it up the next by some other kind of operative procedure.

Dr Croom, although his experience in placenta prævia was small, would like to make a few observations. He agreed with Dr Macdonald that bleeding in the earlier months was accidental. He referred to the case of a patient who, on three successive occasions, had aborted, with placenta prævia, at the fourth month. The uterus was anteverted, and there was a large abrasion on the anterior lip, which itself was inflamed. No doubt the low position of the placenta had given rise to bleeding, but the endometritis giving rise to brittleness of the vessels had been the proximate cause. He could not agree with Dr Macdonald in limiting unavoidable bleeding to a period of ten or fourteen days before delivery. He thought any time during the last month it might be unavoidable. He believed turning was the best method of delivery in the great majority of cases of placenta prævia, and thought Dr Ritchie was rather hard on students who gave turning as the invariable answer. No doubt there were cases in which separation of the placenta, or the use of forceps, might be serviceable, but these were exceptional, and students were right in giving as an answer that form of treatment which was most usually available.

Dr Milne had seen many cases of placenta prævia, and very many with little or no bleeding. He regarded podalic version as the best method of treatment. He would not be inclined to temporize by plugging. He had in some cases separated a portion of the placenta, with the result of stopping the bleeding.

Dr Bell, in reply, referred to the valuable preparations which had just been shown to the Society by Professor Simpson, as supporting the opinions he had expressed in his paper. The one indicating that the placenta may be attached to the cervix in the commencement of pregnancy, and become the apparent cause of abortion, as in the preparation the ovum was found attached to the lower part of the womb. The other preparation clearly showed that in advanced pregnancy a lobe of the placenta might overlap the cervix without adhering to it. He then expressed his gratification at the reception given to his paper. He was sorry, however, to encroach on the Society's time, but he would like to make a few remarks in regard to what had been said by Dr Macdonald, who seemed to think that he had "misrepresented" Dr Duncan. Certainly nothing was further from his intention, as Dr Duncan was a person he held in high estimation, and if he had done him injustice, he had himself to blame, as he had quoted his own words. He could not see the propriety of considering the hæmorrhage in placenta prævia as accidental; and the assertion that the cervix uteri was not developed until the last fortnight of gestation, was at variance with the views which have been entertained by some of the most eminent accoucheurs both in this country and on the Continent, as well as with his own observation and experience. Accidental hæmorrhage is generally understood to be that which is the consequence of some shock or external injury. It may therefore be foreseen as a natural result of such an accident, and in many instances prevented, whereas the hæmorrhage in placenta prævia is a causalty depending on the locality of the placenta, which cannot be foreseen, and therefore cannot be prevented. In regard to the development of the uterus, it obviously corresponds with that of the child, so that it may accommodate it. Otherwise, how could the fœtus move so freely as it does? In the ninth month the fœtus measures from eighteen to twenty inches in length, yet according to the theory that the cervix does not dilate until within ten days of parturition, we would find the cavity of the uterus only nine inches in length, rendering the movement of the child impossible; yet observation has shown that it moves freely up to the end of pregnancy. Besides, the increased size of the lower segment of the uterus indicates an enlargement of its cavity, otherwise there must be a vast thickening of the walls of the uterus, which is not the case. There is reason to suspect that this new theory is founded more on the appearance of the cervix after parturition, when in general it is immediately contracted, than previous to it; which has led to the error in supposing that it is not gradually dilated after the sixth month.

VII. *Dr Croom* read a paper on THE VALUE OF RAPID DILATATION OF THE URETHRA AND NECK OF THE BLADDER AS AN AID IN UTERINE DIAGNOSIS.

Dr Wilson alluded to a case in which the sound had passed so far, that he thought it must have passed through the uterine walls.

Professor Simpson had listened with much pleasure to Dr Croom's communication, which threw a new light on an old subject of considerable clinical interest. It was long since he had been convinced that perforation of the walls of the withered uterus could be effected by means of the sound, without the slightest detriment to the patient. The first instance in which he had witnessed it occurred whilst he was still a student, but he remembered it as freshly as if it had taken place that afternoon.

One of the gratis patients who came into Sir James Simpson's consulting-room gave a history which led Sir James to guess that she was the subject of superinvolution of the uterus. Dr Priestley, who proceeded to sound the uterus at Sir James's request, said it could not be that, as the sound had gone in beyond the knob, and the uterus was rather enlarged. On further examination, however, it was found that the uterus was small, with thin friable walls, through which the sound had easily passed, till the point of it could be felt through the not very thick abdominal parietes. Since that time he had met with other similar instances, and he had carefully watched for a case where the sound could be made to travel along a dilated Fallopian tube; but having, in the course of many years, seen only one doubtful instance, he had begun to be sceptical as to the occurrence of such dilatations of the tubes, when Dr Croom told him, a few years ago, that a patient had at last come into the ward with a permeable oviduct. A repeated examination of this patient, however, satisfied them that the sound had simply passed through the uterine walls. The experiment was made at different times, and it always passed through a point in the fundus, near the left Fallopian tube; but that it did not travel along the tube was proved by the circumstance that the point of the sound which was felt at first to the left of the umbilicus, could be carried across to the right side—a movement which would have been impossible had the instrument been covered by the extended tube. Whether it was necessary to suppose that a permanent fistula existed in the fundus in such cases as had been observed in one of Lawson Tait's patients, he (Dr S.) could not say. He was inclined to believe that in some of those which he had himself witnessed, the wall was simply unusually thin and lacerable, so that the sound passed through when less force was being used than was occasionally exerted in traversing the os-internum of an anteflexed uterus. He had never seen the slightest disturbance follow. Whatever might yet be found as regards the permeability of the Fallopian tube, the ingenious demonstration of the perforation of the uterus by means of the vesical exploration must settle for ever the dispute as to the possibility of the occasional innocuous perforation of the uterine parietes. With regard to the dilatation of the urethra, he (Dr S.) would remark, that he had never had recourse to it except for the diagnosis and treatment of morbid conditions of the bladder itself. For effecting the dilatation, he had employed at different times different instruments, but latterly he had dilated simply with the finger. Sometimes he first passed a sound into the bladder, and used it for guiding the finger along the canal, and aiding it in tearing the structures; but he found that by first introducing the little finger, he could distend the tube without much difficulty, and the forefinger could be then passed. The greatest resistance was experienced at the very margin of the external orifice of the urethra. In one case, he had recently succeeded in passing the little finger into the bladder in a patient in his consulting-room, without bringing her under the influence of an anæsthetic.

Dr Bruce thought there must be some imperfection in the nature of the sound if it so readily passed through the uterine fundus.

Dr James Carmichael alluded to a case many years ago, under Dr Duncan's care, in the Royal Infirmary, where the sound passed into the abdominal cavity, apparently through the Fallopian tube.

Dr Macdonald could not agree with Dr Bruce in his view, that if such cases occurred it rendered the uterine sound specially dangerous or its results untrustworthy. There was no doubt this occurrence was the very rare exception. He had passed the sound into a great many uteri. But the accident had never fallen under his own observations. Still he supposed we must accept the evidence of trustworthy observers who had met with it. He had seen Dr Duncan's case, and believed it was a case of dilated Fallopian tube. He admitted that the anatomical presumption in these cases was in favour of our being more likely to perforate the uterus with the sound than to pass it into the extremely small internal os of the Fallopian tube. The curious feature in cases of this accident hitherto recorded, was, that little or no evil seemed to result from the accident.

Dr Macrae regretted there was no record of any post-mortem examination to throw light on these cases.

Dr Bell was at a loss to know how the sound could pass through the fundus, unless the uterine tissues were diseased. As to dilating the urethra for diagnostic purposes, he was not sure of the propriety of it. Troublesome incontinence was sure to result.

Dr Croom thanked the Society for the reception of his paper. He admitted the great difficulty of diagnosis of these cases.

Part Fourth.

PERISCOPE.

EXTRAORDINARY TOLERANCE OF A POISONOUS DOSE OF CHLORAL HYDRATE.—On the evening of the 12th of July Mr P. R., of Irish parentage, aged thirty-two, a glazier by trade, came into my office suffering from nervous prostration and loss of sleep, consequent upon the free use of alcoholic liquors. He had been drinking more or less every day since the 4th. He did not present any marked symptoms of delirium tremens. I prescribed strong coffee, beef-tea, aromatic spirits of ammonia, and gave him twenty grains of Dovers' powder to take at bed-time.

I saw no more of him until the next evening, when I was called to his home. I learned from his wife and others that he had not slept for sixty hours. He presented a typical case of delirium tremens, with all the mental aberrations, illusions, hallucinations, etc., which usually accompany the disease. I wrote the following prescription, which is the one I usually give in like cases: —

℞	Chloral hydrate	℥ss.	
	Ext. scutillariæ fld.	℥j.	
	Syr. zingiberis, adde q. s. ut ft. mist.	℥ii.	M.

S. A teaspoonful in an ounce of brandy every half-hour until the patient sleeps.

I was hastily summoned again shortly afterwards, and upon arriving found that in a few minutes after receiving the first dose he had seized the bottle from his wife's hand, and before he could be prevented had swallowed ten drachms of the mixture, making a trifle over eleven drachms in all. I immediately stirred three tablespoonfuls of ipecac. root (about half an ounce) and one teaspoonful of the sulphate of zinc (fully one drachm) into about a pint of warm water, and with great difficulty compelled him to swallow it. It produced no effect whatever, as far as emesis is concerned. I was unable to procure a stomach-pump.

A Catholic clergyman had been summoned, and, as I had unhesitatingly given my opinion that he could not survive, the last rites of his church were administered. Shortly afterwards he sank into a profound sleep, to arouse him from which many things were tried in vain.

During the first hour his pulse rose to the highest point, namely, 132. In the third hour it had come down to 88, and there remained unchanged, full and soft. The temperature was often taken, and never varied from 99° Fahrenheit. This is perhaps the most remarkable feature in the whole case, as I have always noticed a diminished temperature following even a dose of ten grains. He slept thirty-six hours. At the end of eighteen hours we were enabled to arouse him, so that he could take liquid nourishment in abundance, but to keep him awake for a few minutes was simply impossible. I never before have witnessed such profuse diaphoresis as was presented in this case. During sleep the whole body was constantly bathed in a warm perspiration. I attributed this to the enormous doses of ipecac. and zinc, and queried in my mind whether or not they exercised any influence in saving his life. When I had carefully ascertained how large a dose had been taken, I naturally supposed the mixture to be deficient in strength. I put one drachm into a draught for a lady, and she slept soundly for ten hours. Two days afterwards I was called to another man suffering like Mr. R. This man had not slept for thirty-six hours. Four doses given at intervals of fifteen minutes caused a natural profound sleep of eighteen hours' duration, followed by complete recovery. The amount taken by Mr. R., a trifle over *one hundred and sixty-five grains*, is the largest dose which was not fatal that I have ever heard mentioned or read of in any medical work in my library; and that there should not arise one single alarming symptom, such as diminished temperature, sighing respiration, a slow, feeble pulse, or pallor of the features, renders the case remarkable. It is needless to add that Mr R. awoke entirely relieved from his trouble.— P. E. Bishop, M.D., *in the Boston Med. and Surg. Jour.*, Sept. 1877.

ABDOMINAL AORTA NEARLY SEVERED BY A BULLET—LIFE REMAINING AT LEAST AN HOUR AND TEN MINUTES.—(Read before the Detroit Academy of Medicine.)—On the 4th of June 1876 I was ordered to make, next day, a post-mortem examination on the body of Martin Connors, who was killed by a bullet-shot from a pistol on that day, to find the bullet. On the morning of the 5th of June 1876 I made the autopsy, as ordered by the coroner.

Laying open the skin and muscles where the bullet entered the body of the dead man, I found that the bullet had passed through between the seventh and eighth ribs on the left side, about four inches from the median line. In its course it notched the upper border of the eighth rib.

Opening the abdomen I first encountered a large quantity of serum and clots, the result of internal hæmorrhage. I carefully removed the serum and clots, and satisfied myself that the bullet had not been taken out with them.

I then removed the stomach and bowels with care, and found that the bullet, in a downward and backward course, had passed through the stomach from the upper and front part of the cardiac extremity to the lower and back part of the pyloric extremity, thence through the pancreas, under the aorta, nearly severing it, and impinging on the spinal column about the first lumbar vertebra, again turned back and passed under the ascending vena cava, cut the right renal vein, and lodged in the right lobe of the liver, near the right lateral border, where I secured it.

Now I should feel as if I ought to apologize to the Academy for introducing so ordinary an account of an autopsy to the attention of the members, if I did not wish to call attention to the length of time that the man Connors lived after the fatal wound.

The shooting was done at the new waterworks, in Hamtramck, two miles distant from my office. A messenger came for me with horse and buggy, and I returned with him, time at least twenty minutes. Sent for a waggon to remove the man to the nearest house. This occupied at least twenty minutes more, as no waggon could be found until after inquiry. Then say ten minutes to place the man in the waggon and drive nearly a fourth of a mile; five minutes more to arrange a bed in a room for the reception of the wounded man, on which having been placed, the man breathed his last at the expiration of ten minutes, or at least one hour and ten minutes after the bullet entered the body.

If a smaller artery be cut, as the carotid, a man will bleed to death in a few minutes, or, as Erichsen puts it, "the wound will prove immediately fatal." But here was a man with the abdominal aorta severed in at least three-fourths of its circumference by the passage of a bullet through it, whose death was delayed by the resistance of the peritoneum and fibro-cellular tissues surrounding the aorta to the comparatively long time of one hour and ten minutes at the very least.

This case has been interesting to me particularly as unsettling my convictions as to the time required for a man to die under such peculiarly fatal wounds. If, before seeing this case, a person had asked me the question, "How long could or ought a man to live under such circumstances?" I should have replied without hesitation, "five minutes," and should have been very far from the truth.—Dr Judson Bradley, *in the Detroit Medical Journal,* November 1877.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

USE OF THYMOL AS AN ANTISEPTIC.—Dr H. Ranke, of Halle, in an article in Volkmann's *Sammlung Klinischer Vorträge,* says that thymol was first used by Paquet, of Lille, as an antiseptic in foul suppurating sores and (by inhalation) in pulmonary gangrene, with good effect. Experiments have shown that its poisonous power on the organism is only one-tenth that of carbolic acid, and may practically be left out of account. Dr Ranke uses the following solution—thymol, 1 part; alcohol, 10 parts; glycerine, 20 parts; water, 1000 parts. This solution does not act on the instruments, nor the spray on the respiratory organs; it produces some burning of the skin at first, but no anæsthesia. A useful dressing is made of 1000 parts of gauze, 500 of spermaceti, 50 of resin, and 16 of thymol. This gauze remains constantly moist, and is not irritating. If the dressing be covered with gutta-percha, the smell of thymol is still perceived at the end of eight days. Dr Ranke has used the thymol dressing in fifty-nine cases with excellent results. Among them were four cases of amputation of the breast, with clearing of the axilla, and three cases of extirpation of tumours from the breast. He says that, under the action of thymol, healing takes place sooner, the discharge from the wound is less, and the cost is less than with carbolic acid. Dr Fritsch (*Centralblatt für Gynakologie*, No. 6) believes that thymol is also of great value in obstetric practice. It removes the smell from the hands in cases of putrid abortion, carcinoma uteri, etc., more quickly than any other agent, and produces no irritation. There must always be some hesitation in entrusting midwives with carbolic acid, but thymol may be safely given to them without fear of unpleasant consequences. The solution above mentioned is likely to be specially useful for permanent irrigation, for the dressing of chronic suppurating exudations, for washing out abscess cavities in the female genitals and in the breast, and for injections into the uterus.—*The British Medical Journal,* 13th April 1878.

NAIRNE ON THE EXTERNAL USE OF TINCTURE OF BELLADONNA IN NIGHT-SWEATING.—Mr Nairne writes in the *British Medical Journal* of 2d February, that for some little time past he has employed the common pharmacopœial tincture of belladonna for sponging the body in cases of phthisical and excessive sweating, and invariably with marked benefit. So far as his experience goes, he has found it very much better than anything else; if applied before a sweating comes on, it prevents it; if during the sweating, it almost immediately controls it. Two teaspoonfuls of the tincture mixed with an equal quantity of whisky are quite sufficient (applied with the hand) to cover the whole body and produce the desired effect.—*Medical Record*, 15th Feb. 1878.

ERGOT OF RYE IN THE TREATMENT OF POLYURIA.—The polyuria, in a case reported by Dr Rendu (*France Médicale*, 27th Feb. 1878), was accompanied by supraorbital neuralgia, vertigo, with loss of consciousness, excessive thirst and hunger, with emaciation and loss of strength, although the patient consumed a considerable quantity of food. The urine contained no trace of sugar; the quantity was about ten quarts a day. The urea eliminated by this means in the twenty-four hours amounted to from about 1250 to 1400 grains. Before having recourse to ergot of rye, tincture of valerian was first tried for this patient, in the dose first of fifteen minims, and soon afterwards of half-a-drachm. Under the influence of this treatment, the urine diminished by nearly a quart. Sulphate of atropine in the dose of one milligramme (·015 grain) at first, then two daily, produced a similar improvement; but no advantage was found in persevering in this course, since the appetite diminished with the valerian, and the thirst increased with atropine. Ergot of rye was then tried. The success with this agent was remarkable. In eight days the urine fell to 1600 grammes and the urea fell to fifteen grammes in the twenty-four hours, the emaciation was stopped, the strength returned, whilst the thirst and the excessive desire of food also disappeared. Dr A. Costa (*New York Hospital Gazette*, 15th Feb.) reports also a case of diabetes insipidus with the excretion of ten pints of urine daily, with sugar or albumen, marked by great emaciation, and states that he treated the patient with fluid extract of ergot, which treatment had been followed by striking success, *i.e.*, complete cure in two cases in private practice. Dr A. Costa put the patient upon an initial dose of half-a-drachm of the fluid extract thrice daily, the dose to be increased gradually, first to one drachm, and then to two drachms. There was at once apparent a great reduction in the quantity of urine passed daily. From ten pints it fell to six pints daily, then to three, where it remained. Even before reaching the present limit he ordered the dose to be gradually reduced, first to one drachm and then to half a drachm. Then it was stopped altogether and mint-water substituted in its place. For the past two weeks he had had no ergot, and might be considered permanently cured. The amount of urine daily passed varied between two and three pints.—*The British Medical Journal*, 13th April 1878.

ARNICA AS A REMEDY FOR BOILS.—In the *Journal de Thérapeutique* for 25th Jan. 1878, Dr Planet writes that he has found arnica possessed of rapid and constant efficacy in cases of boils. He was led to the arnica in these cases from the result of physiological experiments made by him, with the view of studying the *modus operandi* of this substance on wounds. Its property of producing resolution, evidently due to its influence on the vaso-constructor nerves, gave him the idea of applying it in all cases of acute superficial inflammation, such as boils, angina, erysipelas, etc. These experiments have convinced M. Planet that arnica arrests all furuncular eruptions with remarkable rapidity. M. Planet makes an exception in the cases of diabetic boils, which have not come under his observation, and of carbuncle, which, by reason of its exceptionally serious character, he has treated in the ordinary way. He has been equally successful in cases of erysipelas and acute simple angina, but is not quite so clear about this as of the case of boils. The arnica was applied directly to the inflamed parts in the form of an ointment, composed of ten grammes of extract of fresh arnica flowers to twenty grammes of honey. If this mixture be too thin, lycopodium or althea powder, or any similar substance, may be added so as to give it the necessary consistence. It is spread on diachylon plaster or oiled silk, and applied to the boil. Generally it is sufficient to renew this dressing once in twenty-four hours. Two or three applications generally cause the boil to die away at all stages of its evolution.

Dr Planet has also given internally, in cases of this character, tincture of arnica in doses of from twenty-five to thirty drops in a draught to be taken in teaspoonfuls every two hours, and has thereby obtained so rapid an extinction of the furuncular eruption, that it seemed impossible to him to deny the special action of the drug. He, however, noted greater efficiency from its direct application.—*Medical Record*, 15th Feb. 1878.

Part Fifth.

MEDICAL NEWS.

OBITUARY.

DR MACKENZIE OF KELSO.

It is with much regret that we have to announce the death of Dr Mackenzie of Kelso, which event took place somewhat suddenly on the afternoon of the 13th inst. As he has for many years deservedly occupied a prominent place among the medical practitioners of the Borders, we would desire to offer a slight tribute of respect to his memory. Born in Edinburgh in 1819, he was educated at the old High School, afterwards studied at the University of Edinburgh, and in 1839 obtained the diploma of the Royal College of Surgeons there. Subsequently he was engaged as surgeon in the merchant vessels *John Gaunt* and *William Mitchell*, in which ships he visited Australia, India, China, etc. On his return from sea he commenced practice in Edinburgh, but afterwards removed to Letham, in Fife. About thirty years ago, the late Mr John Stuart, who had succeeded his father in practice in Kelso, found it necessary to have an assistant, as his sight was failing, in consequence of incipient cataract. For a long series of years he had been recognised as one of the most distinguished and successful surgeons in the district, and as the situation to be filled was really an important one, he was most desirous to secure the services of some one who was thoroughly competent. After various negociations he ultimately entered into an arrangement with Mr Mackenzie, upon the recommendation of Dr Watson-Wemyss. Then it was by no means so common as now for general practitioners to have a double qualification. Mr Stuart, being fully alive to the advantages to be derived from having such honours, urged upon his friend the propriety of his obtaining a degree, and accordingly, in 1849, he graduated at the University of Edinburgh. Subsequently Mr Stuart assumed him as a partner. By-and-by, when increasing blindness and failing health compelled him to retire, Dr Mackenzie carried on their extensive practice unaided, with very great acceptability to the community among whom he laboured. He was only able to do this by being very methodical and economical of his time. He was an early riser, and often overtook long journeys during the hours which most people devote to rest. In cases of real illness, when there was occasion for anxiety, no one could be more attentive than he was, and assuredly in such cases he allowed no distinction as to social position to influence him, for while he was the much-trusted attendant of the rich, he was, indeed, in the most practical sense, the friend of the poor. He had, however, a wholesome dread of gaining popularity by being merely what he used to term "an attentive doctor," and consequently he occasionally gave offence by declining to pay visits which he did not consider necessary—in fact, it may with great justice be said of him, that "he knew his art but not his trade." In a country district such as that in which he practised, comparatively few opportunities occur for the performance of surgical operations; but when occasion demanded, he was ever ready to do what was necessary. Self-possessed and quiet in the sick-room, he inspired others with that confidence which he had in himself. He devoted much attention to the diseases of the eye, and often proved himself an expert and successful oculist. Of a genial and cheerful disposition, he was an immense favourite among his professional brethren, and nowhere was this so manifest as at the meetings of the Border Medical Society, which he attended with great regularity. In no house was there ever greater hospitality dispensed than in his, and very many are the friends who will remember the welcome with which they were received, not only by himself, but by Mrs Mackenzie. He had a keen and ready insight into character, and unquestionably much of his success lay in his tact in managing, as well as treating, his patients, and to these qualities we know that he attached much importance. Although ready with his pen, and well able to write clearly and concisely, he followed the example of his predecessors, and published little. We have often heard him express the wish that men would write less. Many was the caution he gave, more especially to his younger brethren, to avoid rushing into print. Many was the man, he used to say, who, while silent, had obtained credit for knowledge, that had ruined his reputation by publishing himself a blockhead. By the Tweedside Lodge of Oddfellows, of which he was surgeon, he was held in great esteem, and about three years ago they presented him with a handsome testimonial. He was afterwards presented with a public testimonial, consisting of a handsome and valuable time-piece, and a purse containing over five hundred sovereigns. For some time past his health has been failing—his heart and liver were much diseased, but still he continued to practise until within two days of his death, the immediate cause of which was apoplexy. Such was the respect in which he was held, on the day of his funeral all the shops were closed for two hours. The hearse was preceded by the members of the Oddfellow Lodge, while in the rear was the Volunteer Company. There was also a larger attendance of the general public than any one ever remembered to have seen in Kelso. Amongst the mourners were many of the neighbouring gentry and clergy, and also a large number of the members of the Border Medical Society. We are glad to learn that Dr Mackenzie is to be succeeded by his son Dr Alexander Mackenzie, by whom we hope the practice will be long and successfully carried on.

DR MUNGALL OF COWDENBEATH.

Dr Robert Mungall, who died at his residence near Cowdenbeath in March, was too well known to many of us in Edinburgh, and too much respected in his own neighbourhood, for us to allow him to pass away without a brief notice.

A thoroughly-educated, able, clear-headed, sensible man, with great power of work and love of his profession, he, after settling at Cowdenbeath, soon became a power in the district. His family were already well known in Cowdenbeath and Lochgelly as coal and iron masters, and he by his punctuality, courtesy, warm-heartedness, and abundant vitality soon won the confidence of not only the country families, but, much more difficult, the miners themselves; and for nearly twenty years he got through an amount of work which would have killed any ordinary man, and which, in fact, helped to destroy his own magnificent constitution.

Ruddy and muscular, with a constant cheerful smile and regular temper, he seemed to enjoy perpetual youth, and died, after a very short illness, of hæmatemesis, of which he had had several previous warnings, to the great regret of all who knew him.

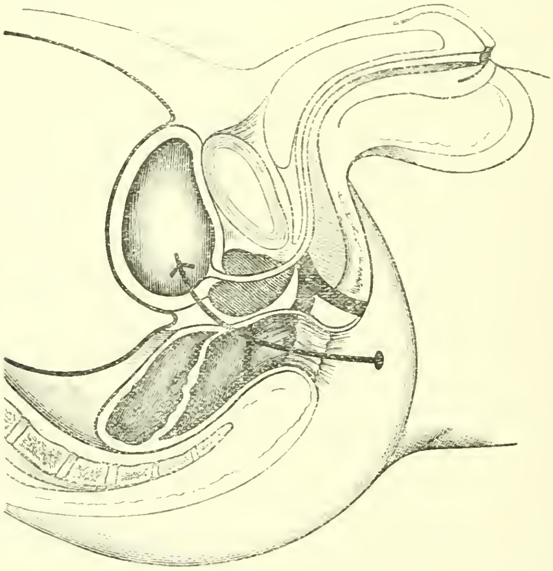
Part First.

ORIGINAL COMMUNICATIONS.

Article I.—*Tapping the Male Bladder in Operations on Urethral Fistulæ.* By W. Mitchell Banks, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Anatomy in the School of Medicine.

It is curious to observe the extensive mutilation which the human body will bear (*e.g.*, a removal of the lower limb at the hip-joint) while the patient, after recovering from the accident or operation, will go about suffering but little inconvenience, and able to enjoy life thoroughly; and then to contrast with this the misery which a trifling but abnormal aperture, that will only admit a quill, may produce. Few complaints, for instance, are so distressing as an urinary fistula. The constant wet and stench, the rawness and scalding which are the accompaniments of this complaint, soon pull down the strongest patient, and make him melancholic, desponding, and unfit for work. And while it is bad enough for a rich man, who can get everything that can possibly alleviate the nuisance, to suffer in this way, what must it be for a working-man who has to fight hard for daily bread for himself and his children? A particularly distressing case of this sort came under my care last summer, in which, however, the results of surgical treatment were so satisfactory that I think it worth while recording, particularly as there was employed a slight innovation on the ordinary methods of treatment, which, for anything I know to the contrary, is somewhat of a novelty.

In May 1877, on my appointment as surgeon to the Liverpool Royal Infirmary, a patient named Welch, æt. 35, was put under my charge by Mr Hakes, my predecessor in office. He was a pattern-maker by trade, a healthy-looking man, rather spare and wiry. At the age of eighteen he caught a gonorrhœa which lasted for several months. During that period the stream of urine diminished in size, and the doctor who attended him, fearing the occurrence of a stricture, passed a bougie on about a dozen occasions. For some time after the gonorrhœa disappeared the patient himself used to pass a bougie once a month, but, finding that the stream kept free, he gradually discontinued the practice. From that time till the summer of 1872, a period of twelve years, he remained perfectly well, and was not in any way aware that there was anything wrong with his urinary apparatus. He was then working very hard in a pattern-shop, had a good deal of night work, and was exposed to sudden alternations of heat and cold, putting wood-work around hot engine cylinders. He began to feel a pain just within the anus, but thought it was due to piles, and kept on using some ordinary treatment for such for some months till about Christmas-time of the same year. Then came a swelling in the perineum and around the anus, so bad that he could neither stand nor walk. It pressed on the urethra so as to occlude it, and he had, in consequence, to draw his water off with a catheter pretty regularly. The passage of fæces at stool gave him great pain. Suddenly the swelling burst in the perineum, matter was discharged, and nearly all his distressing symptoms were relieved. After a few weeks the hole where the abscess burst closed up, and he went to his employment. But he had not long been at work before he again began to have pain in and around the anus, and the old swelling came back and burst in the perineum near the site of the former aperture. But on this occasion, after the abscess emptied itself, the aperture did not close as the former one did, but a little urine kept trickling through it. It contracted, however, till it was little bigger than a pin's head, so that only a few drops used to come through it, and those only at the time of micturition. And so the patient, not being greatly incommoded, went on for nearly five years following his occupation, and not having much trouble till about twelve months before his admission into hospital, when he noticed that at micturition a little water came through the rectum, as well as from the perineal aperture, and very soon the amount that came by the new route exceeded that which came the old way. Still he continued at his work, but as he had a long way to walk to and from it each morning and evening, he used to be very sore and raw from the urine scalding him. He had also a good deal of pain in the perineum, and his general health began to fail by reason of the worry and annoyance which the complaint caused him. As months wore on, the amount of water which came through the rectum and from the perineal opening increased, and his life became most miserable, from his being continually soaking wet. But for his family, he would have dropped work much sooner than he did. The climax of his sufferings was produced by his one day straining himself lifting a heavy weight, which increased the urinary trouble, and also produced an attack of orchitis. This drove him to the infirmary, where he was admitted into No. VII. Ward, under my predecessor, in April 1877. With rest and poultices the orchitis soon disappeared, and then the condition of the openings into the rectum and perineum was inquired into. He was found to have what may be termed a kind of three-legged fistula like the letter λ upside down; one leg was connected with the urethra, one opened into the rectum, and the third opened out on the perineum. The tissues between the membranous portion of the urethra and the terminal part of the rectum were boggy, rotten, and soddened with being steeped in urine. A grooved director passed into the perineal aperture could be pushed into the urethra, and could also be pushed into the rectum through an aperture in its upper wall about an inch from the anal orifice. There was only a very slight narrowing of the urethra found on introducing a catheter, but it does not always require a very tight stricture to produce a perineal abscess; not unfrequently, a very moderate amount of narrowing is sufficient to do this. The treatment adopted was to lay the perineal and rectal openings into one by a deep cut which divided the sphincter ani at its upper part, and also disclosed the existence of a large opening in the urethra. Every method was adopted to induce the wound thus made to granulate up from the urethra outwards, but only failure resulted. The urine now streamed through the large orifice and effectually prevented all union or closure of the deep part of the wound, and only a superficial bridge-like union was found to have taken place after some weeks. In this state the patient came under my care in June. I slit up the superficial bridge just described, and it was clear that no good had been done, for when we placed the patient in the lithotomy position with a bougie passed into the bladder, quite an inch of the floor of the urethra was seen to be open, and the bougie could be seen quite plainly at the bottom of the deep wound, whose sides were now for the most part glazed over with a thin cuticle. The size of the opening in the urethra seemed from the first to be too large to encourage any hope that any but operative treatment would suffice for its complete cure; but for a few weeks I tried various measures in the hope of somewhat diminishing its size. The patient fortunately was able after a few lessons to pass a large catheter upon himself very deftly, and so he was instructed never to allow any urine to come through the urethra, but, when he required to micturate, to pass his catheter and then get on to his hands and knees and evacuate the bladder in that position. The edges of the urethral gap were stimulated with nitrate of silver and other caustics at the same time. No good whatever resulted. The cleft was as big as ever. So both patient and I got tired of this work, and, on 10th September, I proceeded to operate upon him in pursuance of an idea which I had for some time been excogitating. The object was to keep the urine from flowing over the urethral aperture after its edges were rawed and brought together. Of course, a great variety of plans have been devised to attain this end, but none of them have been admittedly successful. I put the patient in the lithotomy position; then I took a curved rectum trocar and canula, and passed them into the bladder from the fistulous opening in the perineum. I put the left forefinger into the rectum and felt the hinder edge of the prostate, and then thrust the trocar and canula into the rectum from the bladder, and, withdrawing the trocar, brought the canula out at the anus or rather what remained of it. In place of tapping the bladder from the rectum, I tapped the rectum from the bladder. Through the canula I then pushed an indiarubber winged catheter, bringing one end of it out of the anus, and then withdrawing the canula over the catheter, that instrument was left with its winged end in the floor of the bladder, and its other end hanging out of the anus. By this means, the urine, as soon as it came into the bladder, escaped by the winged catheter. I next very carefully pared the edges of the deep cleft which led down to the urethral opening. This was a most difficult matter, on account of the sharpness of the hæmorrhage, which obscured everything. However, the more these things bleed the more I cut away at them, as I have found that it is hopeless to wait at every incision till the bleeding stops, and it is infinitely better to pare away too much than too little. Having finished my paring I then waited for a while till the bleeding ceased, tying one or two good-sized vessels with fine catgut, and finding every part quite thoroughly rawed, even to the edges of the opening in



The woodcut shows the nature of the original tri-radiate fistula, and also the winged catheter lodged in the bladder.

the urethra, I proceeded to stitch up. First I restored the anal orifice by bringing together its mucous membrane and sphincter with fine silver-wire; then, with a very delicate curved needle in a holder, I sewed up the deep aperture in the urethra, bringing together with fine catgut the raw edges of the mucous membrane. This was a very troublesome job on account of the depth of the parts from the surface. Next, with strong silver sutures passed very deeply through the tissues, I brought the perineal gap in front of the anus together, and so the whole thing was shut up quite tightly. The whole proceeding somewhat resembled, on a small scale, the operation for split perineum in the female, where one unites the rectal split and then the vaginal split, and finally brings into apposition the perineal tissues themselves. The patient was then put to bed and opium given to keep the bowels from acting. He lay upon his side with the catheter hanging from the anus. Over the end of it was slipped an india-rubber tube, which went into a basin on the floor by the side of the bed, and into which the urine ran as it came into the bladder. The man was fortunately very patient, and lay quietly on his side for a week, during which period nothing could be done for him. At the end of that time I forcibly pulled the winged catheter out through the rectum. Its winged part had become encrusted with phosphates during its stay in the bladder, and it required a good tug to get it out. For some days after this I passed a full-sized bougie along the urethra to keep it well open, but did not venture to look at the wound, lest the mere separating of the patient's legs should pull asunder the tender adhesions. The first movement of the bowels took place about eight days after the operation, and, as the motion was very hard, I feared it would tear everything up, in spite of an emollient olive-oil enema. I rather think it did do some mischief, because, from that time, there were grave suspicions that a little urine was escaping from somewhere. As I thought it would do harm to have a mass of scybalæ lodging always in the rectum, I ordered the patient to have a teaspoonful of castor-oil each morning, about 5 A.M. This produced a soft, easily-passed motion about 9 o'clock, which he took great pains to get quit of without straining. After between two or three weeks had elapsed, I made a thorough examination, and, to my delight, found that the perineal cleft was quite sound and tight, while the anal orifice was restored in all its primal entirety. Whence, then, did the slight leakage of urine, to which I have just alluded, take place? I confess to a slight misgiving lest the aperture by which the soft catheter had passed between bladder and rectum might not have closed, and then there would have been a recto-vesical fistula so high up that I do not know how it could have been closed by operative means. However, on examining with the speculum, I found that there were no traces of that aperture, but that just within the newly restored anal orifice was a small hole communicating with the prostatic portion of the urethra. It was, in fact, the upper end of the original large cleft which extended into the rectum, and which alone had failed to unite. Probably the passage of the first hard motion tore it open. I waited for a month or two to let this aperture shrink down to its smallest size, the patient in the meantime drawing his water off regularly, so as to prevent any from flowing through it. I then found the hole was a trifle too large to be quickly cured by hot wires or similar treatment, and so performed a small operation for its closure. With the patient in the lithotomy position I dilated the anal orifice with the small end of a duck-bill speculum, and then paring the edges of the aperture brought them together with three silver sutures, introduced by means of a hollow travelling needle. This does not take long to tell, but it took about an hour to do, on account of the very confined space in which all the manœuvres had to be performed. For about ten days the patient religiously drew off his water, even doing this twice or three times in the night, so that his bladder should never get distended and so perhaps lead to his involuntarily passing some water through the urethra. At the end of that time the stitches were withdrawn, and an experimental micturition being made not a drop was found to escape, and the patient pronounced the whole urethra "as tight as a drum." He left the infirmary in January of this year to resume his employment in all respects as sound in the urinary tract as ever he was, and extremely grateful for having been rescued from his former deplorable plight.

The first point to be noticed about this case is the rarity of fistulæ so large as this. With the small fistulæ which are found in the "watering-pot" perineum connected with the ancient and gristly stricture one is sufficiently familiar, but the size of this one exceeded anything I have seen before. Seeing that there were two openings, one within the rectum and one on the perineum, it is not improbable that the tissues between the membranous part of the urethra and the last part of the rectum were very rotten, and that, when they were cut open, the weakened urethra gave way for some distance. Whatever be the explanation, when the man came under my care, there is no doubt that when a bougie was passed into the bladder quite an inch of it could be seen lying at the bottom of a very deep cleft, part of which ran up into the rectum. From the first I confess I had no hope except in an operation, but the dressing it and touching it with nitrate of silver amused the man, while meantime his general health was getting much better, and he was becoming an adept in using the catheter and passing his water through it on his hands and knees. It is undoubtedly to this power that he owed the success of the second or minor operation. With the exception of an operation, I cannot think of any treatment likely to have been of the least service except the use of the galvanic wire. This is most strongly recommended by Sir Henry Thompson and other writers of great practical experience in urinary diseases, and is undoubtedly a most valuable method of treatment. But I think this fistula was almost too big even for it, and, besides, I do not mind confessing that I was anxious to put the idea of tapping the bladder into actual practice first, and falling back on the hot wire if the operative proceeding failed.

The next point is with regard to the mode of performance of the operation. After paring and stitching up fistulæ in any part of the urethral track, the great difficulty is to prevent urine flowing over the slit in the urethra and then making its way down between the freshly pared lips of the wound and so preventing union. The tying of a catheter in the bladder is known to be a perfectly futile method of providing against this accident, inasmuch as the urine flows freely by the side of the catheter as well as through it. I should think that the irritation, often almost unbearable, produced by the tying-in of a catheter would do more harm than good. The knowledge of this fact induced me to try the effect of draining the bladder by the rectum. This proceeding, so honourably associated with the name of Mr Cock, has been found most useful in giving the urethra rest in cases of very narrow and irritable strictures, sometimes accompanied by small fistulæ. After a week or a fortnight's draining, an instrument of fair size has been known to pass where previously not even the smallest one could be got in. The improvements made of late years in our urethral instruments and in our means of treating stricture generally, have, however, rendered the rectal tapping a very rare operation nowadays. In the female the bladder has been frequently drained through the vagina in cases of intractable cystitis, and for other reasons, without any bad consequences resulting; so that I had no fear either as to the safety of doing the operation, or as to the aperture not closing up after the withdrawal of the catheter. I believe the only accident that can occur is when the recto-vesical pouch of the peritoneum happens to pass unusually low down. A case was reported a few years ago of rectal tapping for distended bladder, with an impervious stricture, and, after the death of the patient, it was found that the trocar had gone through the peritoneum twice, and set up fatal peritonitis. The pouch was abnormally low. To the thorough manner in which the urethra was kept empty during the first week after the operation I attribute the primary union which occurred along four-fifths of the long fistulous track, which existed in my patient. It will be noticed that I perforated the rectum from the bladder, passing the winged catheter in through the hole in the perineum; and it may be said that this plan of treatment is only applicable to perineal fistulæ. But I do not see why it should not be applied also to fistulæ in front of the scrotum. If the patient be directed to retain his water until the bladder be well distended, the bladder can be perforated with a large trocar from the rectum in the usual way, the winged catheter thrust up into it, and the canula drawn down over it, leaving it comfortably lodged in the bladder. The only precaution would be to ensure the thorough dilatation of the bladder, so that the peritoneal pouch might be drawn well up out of harm's way. Of course the vast majority of fistulæ are to be quite readily disposed of by full dilatation or hyper-dilatation of the urethra, or, failing that, by repeated applications of the galvanic cautery; but there will always remain a few for which plastic operations will be necessary, and for these I respectfully submit to my professional brethren the plan of treatment which I adopted. As there is nothing new under the sun, I am quite prepared to find that it has been already put in practice; and, if so, I shall only be happy to learn that somebody else has seen the possible utility of it. I looked the other day through the *Lancets* and *British Medical Journals* for a good many years back, but could not find any similar case; but on turning up the last edition of Erichson's Surgery, I was pleased to see that the rectal tapping was suggested, although no mention was made of its having been tried.

In connexion with the process of suturing the rawed surfaces of various kinds of fistulæ, I have found the use of fine catgut to bring together mucous membranes most valuable. In repairing split perineums also I have constantly used it for the same object. Good stout silver wire is, on the whole, the best and safest thing, to my way of thinking, for holding together the more massive parts. It irritates as little as anything else, and you know what it will do, whereas you never know what even thick catgut will do, which sometimes suddenly melts away long before you wish your support removed.

ARTICLE II.—*Cases of Aneurism of the Aorta treated by the Iodide of Potassium.* By BYROM BRAMWELL, M.D., Joint Lecturer on Clinical Medicine and Pathology in the University of Durham College of Medicine, Newcastle-on-Tyne; Physician and Pathologist to the Newcastle Infirmary, etc., etc.

(*Continued from page* 999.)

CASE IX.—*Aneurism of the Abdominal Aorta at the point of origin of the Renal Arteries. Occlusion of the Vessel below the Seat of the Aneurism. Establishment of the Collateral Circulation. Death. Autopsy.*

J. W., æt. 35, a labourer, was admitted on the 15th June 1876, complaining of pain in the back, great palpitation, and numbness and coldness in the lower extremities.

Previous History.—Patient states that he has been an unusually strong healthy man. Fifteen months ago he first felt pain in the small of the back. A year ago his legs turned weak, and he experienced a numb feeling in the outer part of each thigh. Eleven weeks ago he began to suffer from headache, pain in the right breast, and palpitation. He has been off work for nine weeks, and has been daily getting worse. Seven years ago he had syphilis. He has been a very heavy drinker. Has never had rheumatism, and knows no cause for his illness.

Present Condition.—Is very pale in the face. The left pupil is larger than the right. There is most violent jerking collapsing pulsation in the vessels of the head, neck, upper extremities, and upper half of the trunk. No pulsation is to be felt in the lower half of the abdominal aorta nor in the femorals.

The superficial epigastric arteries are the size of large goose-quills, and stand prominently out in the abdominal walls. They are very tortuous, and can be grasped between the fingers. The course of the circulation in these vessels is from above downwards. (This was distinctly demonstrated by pressure.) The lower intercostals are greatly enlarged and pulsate strongly. The terminal branches of the internal mammaries can be felt pulsating in the upper part of the abdominal wall. The superficial epigastric arteries are of a blue colour and look like veins.

There is a strong heaving pulsation and marked thrill in the pit of the epigastrium. No distinct tumour can be defined. There is dulness on percussion over the area of pulsation. On auscultation a loud systolic murmur is audible. Posteriorly there is dulness on percussion on both sides of the spine in the lower dorsal region, most marked on the left side. On auscultation over this dull area two sounds, but no murmur, are audible. The sounds give one the impression of being heard in a large vessel. It is over this dull area and in the right lumbar region that he feels so much pain. Two inches to the right of the last dorsal vertebra a loud rasping systolic murmur is audible. The murmur is audible over an area an inch square and seems very superficial.

The patient complains of constant pain in the epigastrium and back (lower dorsal and lumbar regions), of coldness and numbness in the lower extremities, of headache, giddiness, and of palpitation.

There is powerful heaving pulsation all over the præcordia. A thrill is felt in the second and third right interspaces, just outside the sternum. He complains of tenderness on pressure all over the præcordia. The apex beat is seen and felt in the fifth left interspace, an inch and a half below and slightly outside the nipple. The area of cardiac dulness is increased. There is impaired percussion over the manubrium sterni, and in the second and third right interspaces. All over the præcordia a rough double murmur is heard. The systolic portion of the murmur is louder than the aortic. The point of maximum intensity is the base, and the murmur is propagated upwards along the course of the great vessels. No second aortic sound is audible. The cardiac pulsations are heard all over the chest posteriorly, but are quite distinct from the sounds heard over the lower part of the thoracic aorta. A marked thrill and systolic murmur are present in the carotids. The radial pulse is 102, regular, visible and jerking to a most extreme degree.

The *pulmonary, digestive, urinary, nervous,* and *integumentary systems* seem normal.

Treatment.—Rest in bed, and half-drachm doses of the iodide three times a day were prescribed.

Subsequent progress of the case.—After a few days the pain was much relieved, and the patient felt better.

On 8th September it was noted :—He is now free from pain, the palpitation is much less, and he is gaining flesh and strength.

On 20th he begged hard to get up, and was allowed to do so for a short time during the afternoon.

On 29th he was suddenly seized during the night with a pain under the right eye. The next morning that part of the face was swollen and painful to the touch. The iodide was discontinued, and he was ordered thirty grains of compound jalap powder. (I fancy this attack must have been the result of an embolism, unfortunately the matter escaped my memory at the post-mortem.)

On 2d October he was very much worse, complaining of severe pain in the pit of the epigastrium and of vomiting. He was pale and sunken, the pulse weak and collapsed. The strong pulsation and murmur in the epigastric region had disappeared. The urine contained one-third of albumen, a few pus corpuscles, but no casts. A subcutaneous injection of morphia and a mixture containing dilute hydrocyanic acid were prescribed.

On 5th October there was constant and violent hiccup. Every now and again he was seized with a choking sensation at the upper end of the sternum, apparently due to tonic spasm of the diaphragm. He looked as if he were dying. (So prostrate, pale, and collapsed was he, that I was of opinion that the aneurism had ruptured.)

On 8th October he was very much better.

On 3d November it was noted :—The improvement has still continued. The urine still contains a trace of albumen. The iodide was again prescribed ; half-drachm three times daily.

On 14th November the epigastric pulsation and murmur are again present, but not nearly to the same extent as on his admission. The arterial pulsation throughout the body is less violent.

24th November.—For the last two nights there has been a return of the pain in the right breast. Has also vomited once or twice at bedtime. To take the iodide five times daily.

1st December.—Very much better. Has gained more than two stones in weight since his admission. Is now quite free from pain.

On 14th December the patient was shown to the members of the Northumberland and Durham Medical Society, and I made the following remarks :—

"The abdominal aorta is evidently obstructed. What is the nature of the obstruction ?

"Local contractions or obliterations of arteries, says Quincke,[1] may occur—

"1*st*, As a congenital condition.

"2*d*, As the result of disease of the arterial tunics (arteriosclerosis, acute inflammation with the formation of an abscess, tumefaction of the walls of the artery).

"3*d*, As the result of external pressure (from tumours or cicatrices).

"4*th*, From coagulation of the blood (thrombosis and embolism).

"In this case the causes classified under the second heading may, I think, be excluded, because of the position of the obstruction, and the very gradual and insidious manner in which the symptoms commenced. That the obstruction is not due to the pressure of a cancerous tumour is proved by the 'good condition' of the patient and the marked improvement which has taken place under treatment. We are reduced, therefore, to the obstruction being either congenital or caused by an aneurism of the aorta itself, or by the formation of a thrombus round some prominent spiculum or point of calcification.

"Narrowing of the abdominal aorta has occasionally been observed as a congenital condition. Supposing cardiac changes, aortic disease, and hypertrophy to have been superadded, many of the physical signs and symptoms present in this case might have been produced. All the phenomena are, however, best explained by supposing the obliteration to have been caused by the occlusion of the vessel by an aneurismal clot. The following facts are in favour of this view:—

"1*st*, The previous history. The patient had been a strong healthy man until fifteen months before his admission to hospital.

"2*d*, The fact that he had had syphilis and had been subject to strain and hard work.

"3*d*, The characteristic pain in the back. The pulsation and murmur in the pit of the epigastrium. The dulness and arterial sound over the situation of the pain posteriorly (physical signs almost identical with those in Case V., P. M. C.)

"4*th*, The marked improvement which followed the treatment."

The patient discharged himself on 31st December. I saw nothing more of him until 22d March, when he returned very much worse. The pain constant and severe. The shortness of breath and palpitation increased. The physical signs at the seat of the aneurism were the same. The heart was considerably increased in size, the apex beat now corresponding to a point three and a half inches below and outside the left nipple. The arterial pulsation in the upper part of the body was very violent. Faint pulsation could now be perceived in the femorals. There was no pulsation whatever in the abdominal aorta below the seat of the aneurism. The same *treatment* as before was adopted. The pain was relieved, but the patient did not improve.

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[1] Ziemssen's *Cyclopædia of Medicine*, vol. vi. page 471.

On 7th May it was noted:—For the past week he has been very much worse. He complains of great pain and tenderness in the pit of the stomach. He vomits everything. He has not made water for twenty-six hours. A small quantity was drawn off by the catheter; it was bloody and highly albuminous.

9th May.—On going up to his bed I found him dead. He had spoken to the nurse a few minutes previously, and was thought by her and by his fellow-patient to be asleep.

The post-mortem was made twenty-four hours after death, the body having been previously injected with a coloured solution of plaster-of-Paris.

The collateral circulation in the anterior abdominal wall was carefully dissected out, and corresponded to the descriptions of the text-books.

The superficial epigastric arteries were larger than the radials, the deep epigastrics fully the size of the brachial. The collateral circulation within the abdomen seemed to follow the usual course. I cannot, however, be certain upon this point, for just as we were commencing the dissection of the abdomen, a body of Irish friends came to carry off the corpse, and as we had no permission to make a post-mortem, the examination had to be completed with all possible despatch. The abdominal aorta was removed for separate examination. At the point of origin of the renals and superior mesenteric the canal of the vessel was expanded, forming an aneurism about the size of a small egg (See Plate v. Fig. 1). The cavity of the aneurism was almost completely filled with dense laminated clot, the outermost layers of which were firmly adherent to the walls of the sac.

The aorta below the aneurism was completely occluded by a firm old clot which was directly continuous with the outer layers of the clot lining the aneurismal cavity. (See Plate v. Fig. 2.)

The aortic clot extended into the common iliac arteries to the point of bifurcation of those vessels. (Specimen exhibited.)

The right renal artery consisted of two branches. One of them was completely occluded by an old decolorised clot. The portion of the right kidney supplied by this artery is represented by a very large cicatricial depression. (Specimen exhibited.)

The condition of the right kidney and of its artery explain the attack of albuminuria, which at the time was difficult to account for. The orifices of the superior mesenteric and renal arteries are almost entirely concealed by the aneurismal clot, and it is extraordinary that the circulation in those vessels was not more completely interfered with. The spermatic arteries were completely occluded at their origin from the aorta, and yet there was no wasting of the testes. The inferior mesenteric was also obstructed at its origin from the aorta. The heart weighed 1 lb. 15 oz. The aortic valves were thickened and incompetent. The base of the aorta was atheromatous. The other organs of the chest and abdomen were healthy. The brain was not examined.

At the same time that this patient was in the Infirmary, I had under my care in the very next bed to him a case of varicose enlargement of the abdominal veins; the coincidence was remarkable, and you will perhaps allow me to relate a few particulars of that case.

Varicose Enlargement of the Superficial Abdominal Veins from Obstruction of the Left Common Iliac Vein at its Junction with the Vena Cava.

H. M'L., æt. 45, married, a puddler, was admitted to the Newcastle-on-Tyne Infirmary under my care on 13th July 1876, suffering from eczema of the right leg.

The history of the case was as follows:—Fourteen years before admission the patient contracted syphilis. Six years ago while suffering from tertiary ulceration on the chest and legs, he was attacked with severe pain in the pelvis, corresponding, he says, to a point on a level with the lower end of the back bone (tip of the coccyx.) The pain lasted for a few days. When it passed off his left leg became "fearfully swollen." The leg was not inflamed, nor in the least painful. The veins in the left groin and on the left side of the abdominal wall now commenced to swell, and he suffered from piles. At the end of a year the veins attained their present enormous size. The swelling of the leg gradually disappeared. A year ago the right leg began to swell, and the veins in the right groin and in the right side of the abdominal wall began to enlarge. The patient's general health has been fairly good. He has suffered occasionally from syphilitic rheumatism and palpitation.

The superficial abdominal veins were normally distended and tortuous. This varicose condition was much greater on the left than on the right side. Indeed, it was obvious that all the blood from the left lower extremity was being returned to the heart through this abnormal channel. The heart and great vessels were normal. No tumour could be discovered, even on careful rectal examination, in the pelvic cavity.

The enlargement of the veins is well seen in the accompanying drawing, for which I have again to thank my friend Dr Barron. (See Plate vi. Fig. 1.)

Remarks.—There can be little doubt that the left common iliac vein was alone obstructed in the first instance. The swelling of the veins on the right side showed that the vena cava itself or the right common iliac vein were subsequently partly occluded. The cause of the obstruction was probably some syphilitic lesion.

CASE X.—*Large Aneurism of the Innominate Artery. Death. Autopsy.*

George P., æt. 37, sailor, married, was admitted on 20th February 1877, complaining of great difficulty in breathing, paroxysmal cough, and pain at the root of the neck.

Previous History.—The patient states that, for the past ten years, he has not been very strong. He has frequently suffered from rheumatic pains, but has never had rheumatic fever. For three years he has been short of breath on exertion. For a year he has suffered from pain in the left breast. Six weeks ago he caught cold. He has been laid up for a fortnight, and is every day getting worse. A fortnight ago he first noticed a swelling at the root of the neck. He denies having had syphilis. He married when he was seventeen years of age. His wife has had four children and two miscarriages; all the children are healthy. He has been a sober man.

Family History.—Good.

Condition on Admission.—He is a strongly-built, muscular man. He says he has lost a great deal of flesh during the past fortnight. His expression is distressed and anxious. He is very short of breath, and obliged to rest in a sitting position. He is troubled with a frequent clanging paroxysmal cough. Expiration is attended with a hoarse stridor. There is some difficulty in swallowing. He complains of a constant pain and choking sensation at the root of the neck. *On Inspection*, the root of the neck is seen to be swollen. Each clavicle is projected forwards at its sternal end. Both brachiocephalic veins, and the veins on each side of the neck, are prominent and enlarged. *On Palpation*, strong heaving pulsation is felt in the supra-sternal notch, and over the swelling behind each sterno-clavicular articulation. Indeed, the prominence of the clavicles is seen to be due to a pulsating tumour situated immediately behind the manubrium sterni. *On Percussion*, there is dulness over the manubrium sterni and on adjacent part of each infra-clavicular region. The dulness is more extensive on the left than on the right side, and the left sterno-clavicular articulation is more prominent than the right. (See Plate ii. Fig. 8). *On Auscultation*, two muffled sounds are heard over the pulsating prominence; the second is the louder of the two. The radial and carotid pulses are regular, equal in strength, but very weak. I regret exceedingly that sphygmographic tracings of the radial pulses were not taken, as important diagnostic evidence would probably have been derived therefrom. The aneurismal sounds are heard very distinctly in the supra-scapular regions. The heart is normal.

Expiration is attended with a stridor. Sibilant, sonorous, and fine crepitant râles are heard all over both lungs, but there is no dulness. The respiratory sounds are of equal intensity on the two sides of the chest. The expectoration is scanty, and bronchitic. A laryngoscopic examination was attempted, but was unsuccessful, owing to the great distress it caused the patient.

The *urine* contained a trace of albumen and some phosphates. The other organs seemed natural. The temperature was normal.

Treatment.—A subcutaneous injection of morphia was administered soon after his admission, and a mixture containing Vin.

ANEURISM.

Treatment.	Progress of Case.	Result.†	Days in hospital.	Mode of Death.	Remarks, Postmortem, etc.
t. Iod. dr. ½ t.d. Feb. —Tr. Digitalis mv. d. Feb. 17.—Ferri Quin. c. Stry. Citr. ·. x. t. d. Mar. 1.— ɔt. Iod. dr. ½ t. d.	Speedy relief from pain. Worse on Feb. 8. Dry pericarditis. Feb. 17.—Better, friction gone, continuous improvement after this date. On his discharge, April 28, prominence almost gone, free from pain, dysphagia, and cough.	R	106		
Opiates.	Rapid increase in size of tumour.	D		External rupture.	Large aneurism springing from very base of aorta. Large perforation of sternum. Large external sac.
ɔt. Iod. dr. ½ t. d.	Continuous improvement. On discharge, April 4, he felt quite well; prominence much less marked. He returned 19 months afterwards, having worked in the interval, the tumour increasing, heart hypertrophied.	R	78		
Pot. Iod. dr. ½ t. d. Sept. 13.—Mist. ıinine co.	Improved and discharged on July 8. Shortness of breath less, cough and dysphagia gone. Re-admitted worse. July 22. Discharged Sept. 28, very much better. Seen on Jan. 10, working regularly, still keeping well.	R	80		
. Iod. dr. ½, five ɑes daily. Subtaneous injection · first three days.	Wonderful improvement. At end of a fortnight free from pain, able to walk about ward, gaining flesh. Went home at end of 35 days. Continued to feel well until rupture.	R	35	Rupture into left pleura.	Large aneurism of lower thoracic and upper abdominal aorta; 8th and 9th dorsal vertebræ eroded; mitral valve much contracted, owing to calcareous deposits.
Opiates.	Rapid increase in size of tumour.	D		Rupture through bed sore.	Immense quantity of laminated clot, weighing 14 lbs., in abdomen. Aneurism, size of fist, springing from aorta close to cœliac axis. It had ruptured into retroperitoneal tissue. Left kidney flattened out and atrophied.
t. Iod. dr. ½ t. d.	Very soon relieved of rheumatism, and went to sea again.	R			Aneurism partly cured by rapid-pressure method. in Liverpool Royal Infirmary, two years previously.
t. Iod. dr. ½ t. d.	Pain relieved after four days. On discharge, prominence less, though still very liquid feeling. Cough and dysphagia gone.	R	40		
t. Iod. dr. ½ t. d.,	Continuous improvement until Sept. 30, when attack of albuminuria, with hiccough and vomiting. Dec. 31.—Discharged himself, saying he was fit for work. Mar. 22. — Re-admitted worse. Died May 9.	D	244	Cardiac syncope.	Aneurism size of an egg at point of origin of superior mesenteric; complete occlusion of abdominal aorta below aneurism. Aortic valves incompetent. Weight of heart, 1 lb. 15 oz. Cicatrix in right kidney and occlusion of renal artery.
Stimulants. 2. pectorants. 3. t. Iod. 4. Ice over nour.	Improvement for a few days, then worse, and death.	D	8	Exhaustion and œdema of lungs.	Aneurism larger than fist, from middle of innominate artery, extending behind sternum and to left, dislocating both clavicles. Heart normal.

† D. died. R. relieved.

TABULAR STATEMENT OF DR BYROM BRAMWELL'S CASES OF ANEURISM

No. of case and initials of Patient.	Age.	Sex.	Occupation.	Supposed Cause.	History of Syphilis.	Date of First Symptoms	Complaints.	Physical Signs at the Seat of the Aneurism.	Pressure Signs.	Condition of the Heart.	Complications	Treatment.	Progress of Case	Result.†	Days in hospital.	Mode of Death.	Remarks, Postmortem, etc.
1. P. D.	40	M	Pitman	Unknown	Yes. 9 years before admission.	29 months before admission	1. Pain in right breast, shoulder, back, and arm. 2. Beating in right breast and palpitation. 3. Shortness of breath on exertion. 4. Cough	*Inspection.*—Pulsating prominence between 2 and 3 right costal cartilages. *Palpation.*—Double impulse and systolic thrill over prominence. Tenderness on pressure over prominence and between right scapula and spine. *Percussion.*—Absolute dulness over prominence; impaired percussion over inner half of right infra-clavicular region and over manubrium sterni. *Auscultation.*—Double sound and systolic murmur over aneurism.	1. Pain, generally constant and confined to position of aneurism; at times paroxysmal, shooting down right arm to fingers. 2. Inequality of pupils, the right sometimes smaller, sometimes larger, than left. Unilateral sweating. 3. Hoarseness of voice. 4. Slight dysphagia. 5. Cough.	Considerable hypertrophy. Systolic apex murmur. Accentuated pulmonary second sound.	Dry Pericarditis. Unilateral Sweating.	Pot. Iod. dr. ½ t.d. Feb 8.—Tr. Digitalis mv. t. d. Feb. 17.—Ferri c. Quin. c. Stry. Citr. gr. x. t. d. Mar. 1—Pot. Iod. dr. ½ t. d.	Speedy relief from pain. Worse on Feb. 8. Dry pericarditis Feb. 17.—Better, friction gone, continuous improvement after this date. On his discharge, April 28, prominence almost gone, free from pain, dysphagia, and cough.	R	106		
2. J. S.	36	M	Striker, formerly Soldier.	Unknown.	Yes 10 years before admission	3 years	1. Pain in chest and right shoulder. 2 Cough. 3. Dyspnœa 4. Inability to sleep	*Inspection.*—Very large pulsating tumour, situated midway between nipples. *Palpation.*—Double impulse in tumour, which is soft and liquid feeling. *Percussion.*—Absolute dulness over the tumour and around it, over an extensive area. *Auscultation.*—Double sound, but no murmur, over the tumour.	1. Pain. 2. Cough. 3. Œdema of right arm. 4 Pulse in right wrist much stronger than in left.	Considerable hypertrophy. Double aortic murmur.	None.	Opiates.	Rapid increase in size of tumour.	D		External rupture.	Large aneurism springing from very base of aorta. Large perforation of sternum. Large external sac.
3. H. P.	42	M	Labourer.	Unknown. (Strain?)	No.	6 months.	1. Severe pain, at times agonizing. 2 Beating in chest 3. Shortness of breath. 4. Inability to sleep.	*Inspection.*—Pulsating prominence, size of an egg, between 1 and 3 right costal cartilages *Palpation.*—Strong single impulse in tumour, which is soft and liquid feeling. *Percussion.*—Extensive dulness. *Auscultation.*—Loud double murmur, diastolic portion musical.	1. Pain. 2. Diminution of respiratory murmur in the right lung.	Natural size. Double aortic murmur, diastolic portion less loud than over the tumour.	None.	Pot. Iod. dr. ½ t. d.	Continuous improvement. On discharge, April 4, he felt quite well; prominence much less marked. He returned 19 months afterwards, having worked in the interval, the tumour increasing, heart hypertrophied.	R	78		
4. J. F.	54	M	Labourer	Unknown.	No.	5 months.	1. Dyspnœa. 2. Paroxysmal cough 3. Slight dysphagia 4 Numbness and weakness in right arm.	*Inspection.*—Left brachio-cephalic and external jugular veins distended. *Percussion.*—Dulness over manubrium sterni, and to the left of it (3 × 4 inches). *Auscultation.*—Blowing systolic murmur over dull area, in left supraspinous fossa, and in left subclavian artery.	1 Obliteration of right radial pulse. 2. Respiratory murmur weaker in left than right lung 3. Paroxysmal clanging cough 4 Dysphagia. 5. Left pupil larger than right.	Natural size. Soft bellows murmur at base, accentuation of aortic second sound	None,	1. Pot. Iod. dr. ½ t. d. 2. Sept. 13.—Mist. Quinine co.	Improved and discharged on July 8. Shortness of breath less, cough and dysphagia gone. Re-admitted worse. July 22. Discharged Sept. 28, very much better. Seen on Jan. 10, working regularly, still keeping well.	R	80		
5. P. M'.	41	M	Marine store dealer, formerly Sailor	Unknown	Yes. 18 years before admission	3 years.	1. Constant agonizing pain in back 2 Sleeplessness. 3 Emaciation and extreme debility. 4 Constipation.	*Palpation.*—Fulness, hardness, and pulsation in pit of epigastrium, no defined tumour even under chloroform. *Percussion*—Dulness in epigastrium and posteriorly over lower part of right chest. *Auscultation.*—Loud systolic murmur in epigastrium not audible posteriorly.	1. Pain. 2. Constipation. 3. Flexure of thigh on abdomen.	Natural size. Sounds short and valvular at apex. Pulmonary sounds accentuated	None.	Pot. Iod. dr. ½, five times daily. Subcutaneous injection for first three days	Wonderful improvement. At end of a fortnight free from pain, able to walk about ward, gaining flesh Went home at end of 35 days Continued to feel well until rupture.	R	35	Rupture into left pleura.	Large aneurism of lower thoracic and upper abdominal aorta; 8th and 9th dorsal vertebræ eroded; mitral valve much contracted, owing to calcareous deposits.
6. *	39	M	Merchant	Unknown	Not noted.	1 year.	1. Pain in back and left hip.	When first seen, no physical signs Dec. 15, 1881.—Pulsating tumour, size of half a small apple, detected to left of lumbar vertebræ. Systolic murmur in tumour, which rapidly increased in size, and almost filled the abdomen.	1. Pain.	Not noted.	None.	Opiates.	Rapid increase in size of tumour.	D		Rupture through bed sore.	Immense quantity of laminated clot, weighing 14 lbs., in abdomen. Aneurism, size of fist, springing from aorta close to cœliac axis It had ruptured into retro-peritoneal tissue. Left kidney flattened out and atrophied.
7. W. F.	38	M	Sailor	Unknown.	Yes. 9 years previously	5 years before admission	1. Pulsating tumour in abdomen. 2. Syphilitic rheumatism	Large irregular pulsating tumour in abdomen Systolic murmur in tumour, which is very hard.	None.	Normal, but weak.	Rheumatism.	Pot. Iod. dr. ½ t. d.	Very soon relieved of rheumatism, and went to sea again.	R			Aneurism partly cured by rapid-pressure method, in Liverpool Royal Infirmary, two years previously
8. M. M'I.	37	F	Washerwoman	Unknown	No	2 months	1. Constant and severe pain in right breast and shoulder 2 "Heavy beating" in chest. 3. Cough. 4. Dysphagia.	*Inspection.*—Pulsating tumour, size of hen's egg, between 2 and 3 right costal cartilages. Slight prominence between right scapula and spine. *Palpation.*—Double impulse over tumour, which is very soft and liquid feeling *Percussion.*—Impaired from clavicle to second rib. Absolute dulness from 2 to 4 ribs; transversely, from middle of sternum outwards, 2 inches; impaired over manubrium, and in right scapular and upper part of spinal regions. *Auscultation.*—Double muffled sound over aneurism, but no murmur.	1. Pain. 2. Dysphagia. 3. Inspiratory stridor, with diminished intensity of respiratory murmur in right lung; cough. 4. Prominence of right external jugular vein.	Normal size. Aortic second sound accentuated	Slight bronchitis.	Pot. Iod dr. ½ t. d.	Pain relieved after four days On discharge, prominence less, though still very liquid feeling. Cough and dysphagia gone.	R	40		
9. J. W.	35	M	Labourer	Unknown	Yes	15 months	1. Pain in back. 2 Numbness and coldness in lower extremities. 3 Beating in chest. 4 Headache, giddiness, shortness of breath	*Inspection.*—Collateral circulation in abdominal wall beautifully visible. *Palpation.*—Strong heaving pulsation in epigastrium; no pulsation in lower part of abdominal aorta, nor in femorals. *Auscultation.*—Loud systolic murmur in epigastrium and behind 2 inches to right of last dorsal vertebra.	1. Pain in back.	Hypertrophy Double aortic murmur.	Attack of albuminuria while in hospital Aortic regurgitation and cardiac hypertrophy.	Pot. Iod. dr. ½ t. d.	Continuous improvement until Sept. 30, when attack of albuminuria, with hiccough and vomiting. Dec 31—Discharged himself, saying he was fit for work Mar. 22.—Re-admitted worse Died May 9.	D	241	Cardiac syncope.	Aneurism size of an egg at point of origin of superior mesenteric; complete occlusion of abdominal aorta below aneurism. Aortic valves incompetent. Weight of heart, 1 lb. 15 oz. Cicatrix in right kidney and occlusion of renal artery.
10. H.	37	M	Sailor	Unknown	No.	3 years	1. Pain in chest, and at root of neck. 2. Dyspnœa. 3 Cough 4. Dysphagia	*Inspection.*—Pulsating prominence at root of neck, left clavicle pushed forwards. Prominence more marked on left than on right of sternum. *Percussion.*—Dulness over manubrium and on each side of it, especially to left. *Auscultation*—Double sound, but no murmur	1. Pain. 2 Dyspnœa and stridor 3. Dysphagia. 4. Cough. 5 Swelling at root of neck and distension of veins. 6. Dislocation of clavicles.	Normal.	Bronchitis.	1. Stimulants. 2 Expectorants. 3. Pot. Iod. 4. Ice over tumour.	Improvement for a few days, then worse, and death.	D	8	Exhaustion and œdema of lungs.	Aneurism larger than fist, from middle of innominate artery, extending behind sternum and to left, dislocating both clavicles Heart normal

* Patient of Dr Cargill

† D. died. R. relieved.

ipec., Chloric ether, Sp. amm. arom., and Tr., card. co. was prescribed.

On 21st February, half a drachm of iodide of potassium was ordered to be given three times daily, and the subcutaneous injection of morphia to be repeated if necessary.

On 22d February he was rather better.

On 23d February much worse. Pulse, 126; temperature, 102°·6. The aneurismal swelling seemed larger. He had expectorated a considerable quantity of thick muco-purulent fluid. The iodide was discontinued, and icebags were applied over the tumour, which was thought to be an aneurism of the transverse portion of the aortic arch.

On 24th February he was in *statu quo.*

On 25th February there was some improvement. The dyspnœa and cough were easier.

On 26th February he was again worse.

On 27th February it was determined to have recourse to galvano-puncture; but on visiting the patient I found him *in extremis,* and the operation was not performed. He died on the morning of 28th February.

The *post-mortem* was made thirteen hours after death. The body was still warm.

An aneurism, fully the size of the closed fist, sprang from the anterior side of the innominate artery at a point a quarter of an inch above the origin of that vessel from the aorta. The innominate artery at its origin was much dilated, measuring $\frac{5}{8}$ths of an inch in diameter. The aperture in its anterior wall, *i.e.,* the opening of communication between the artery and the aneurismal sac, measured $\frac{6}{8}$ths of an inch from above downwards. The chief boundaries of the sac were as follows:—In front the manubrium sterni and the sternal ends of the clavicles (both sterno-clavicular articulations were opened into, and the clavicles dislocated forwards); behind, the trachea and œsophagus; laterally, the first ribs and the apices of the lungs; inferiorly, the aneurism was in close contact with, and rested upon, the aortic arch, and had made its way for some distance into the thorax in front of that structure. The walls of the sac were of considerable thickness. The cavity of the aneurism was almost completely filled with laminated fibrine. The aorta was atheromatous. The aortic valves somewhat thickened, but competent. The heart weighed 11$\frac{3}{4}$ ounces, and was healthy. The lungs were œdematous and congested, and presented the usual appearances seen in acute bronchitis.

Remarks.—The case is chiefly interesting from the somewhat unusual situation of the aneurism—a circumstance which led me to suppose that the sac sprang from the transverse portion of the aortic arch. The position of the sac, immediately in front of the trachea and œsophagus, fully explained the dyspnœa and dysphagia symptoms, which are said to be rare in cases of innominate aneurism.

APPENDIX.

Since the foregoing paper was read, I have met with a case of cystic tumour in the anterior mediastinum simulating aneurism; a case of aneurism simulating solid tumour; and a case of aneurism of the left auricle of the heart. The notes of these cases are as follows:—

Case of Cystic Tumour in the Anterior Mediastinum simulating Aneurism.

A. C., æt. 50, single, a drayman, formerly a soldier, was first admitted to the Newcastle-on-Tyne Infirmary, under my care, on 17th February 1876, suffering from acute albuminuria of three weeks' duration.

Twenty years previously he had suffered from syphilis. For several years past he had been a hard drinker.

On examining the thorax, visible and tangible pulsation was perceived in the second right interspace (see Plate vii. Fig. 1). A slight systolic thrill could be felt when the hand was placed over the same spot, and there was well-marked and limited percussion dulness. A systolic murmur and somewhat accentuated second sound were heard on auscultation. (The thrill, systolic murmur, and accentuation of the second sound were perhaps better marked over the mid sternum at the level of the fourth costal cartilage than over the area of pulsation.)

There were no pressure signs; it was particularly noted that there never had been any pain. Shortness of breath and cough were complained of, but were evidently due to the presence of bronchial catarrh.

The heart was of normal size, the apex being situated an inch immediately below the left nipple.

The diagnosis, as regards the thoracic lesion, was an aneurism of the aortic arch.

On 6th April the patient discharged himself. The urine still contained a trace of albumen, the physical signs at the seat of the supposed aneurism being the same.

On 5th October he was again admitted, suffering from a relapse of the renal dropsy; and after remaining in hospital for a month was again discharged. The thoracic physical signs were still unchanged.

He continued well until September 1877, when he began to suffer from pain in the region of the stomach and from difficulty in swallowing.

On 14th November 1877, he was re-admitted under my care. He was now greatly emaciated, his expression was haggard and anxious, and he presented a remarkably cachectic appearance.

The physical signs within the thorax were as before, except that the apex-beat was somewhat elevated, corresponding to the left nipple.

Pain and tenderness on pressure were complained of in the epigastric region, but no tumour could be perceived. The epigastric pain was increased immediately after taking food. There had been no vomiting. The stomach seemed of normal size. There was marked dysphagia, the stoppage being referred to a point corresponding to the lower end of the sternum.

The right pupil was only half the size of the left. He complained of numbness in the fingers of the right hand.

The urine was copious, pale, sp. gr. 1010. It contained $\frac{1}{8}$th albumen, and a few granular and hyaline casts.

I now discarded the notion of a true sacculated aneurism in favour of a general dilatation of the aortic arch. This opinion was based upon the continued absence of all pressure signs—especially pain—and the unaltered condition of the physical signs at the seat of pulsation.

On 21st January the patient was seized with a severe epileptiform convulsion, and died twelve hours afterwards.

The autopsy was made sixteen hours after death. The body was much emaciated. A cystic tumour, the size of a hen's egg, was situated in the anterior mediastinum, in immediate contact with the ascending, and the junction of the ascending and transverse portions of the aortic arch. (The specimen was exhibited at the May meeting of the Edinburgh Medico-Chirurgical Society.) The anterior surface of the tumour was partly covered by lung tissue, the uncovered portion being in contact with the chest-wall at a point corresponding to the second right interspace. The cyst contained a clear, watery-looking fluid of neutral reaction, and of sp. gr. 1010. The fluid was almost entirely coagulated by heat and nitric acid. On standing, it deposited a scanty sediment containing a few leucocytes, but no other formed elements.

The aorta was somewhat dilated and atheromatous at its base. The aortic valves were thickened and cartilaginous, but competent.

The heart weighed 13 oz.

The stomach was filled with a huge clot of black blood. A large ragged malignant ulcer surrounded the œsophageal opening. The coats of the stomach were very much thickened at the seat of the ulcer. The orifice of the œsophagus was partly obstructed by the new growth. The kidneys were in an early stage of the large white form of Bright's disease.

Remarks.—In the works at my disposal I cannot find any reference to the occurrence of a simple serous cyst in the anterior mediastinum. The case is obviously, therefore, of great pathological rarity. It is, however, in its clinical aspects that it is chiefly interesting; indeed, I have not, either in reading or in practice, come across any case in which the direct[1] physical signs of an aortic aneurism were so closely simulated. The pulsation and limited dulness at the "seat of election" of aortic aneurisms resulted, of course, from the presence of the tumour and from the way in which it was related to the aortic arch. The accentuated second sound was due, chiefly, I think, to the increased arterial tension which resulted from the kidney disease, partly, to the dilated condition of the aortic arch. The systolic murmur and thrill were evidently caused by the passage of the blood over the thickened and roughened aortic valve.

Case of Aneurism of the Aorta, Innominate, Left Common Carotid, Right Common Carotid, and Left Subclavian Arteries, simulating Solid Intra-thoracic Tumour.

M. F., æt. 64, a striker, was admitted to the Newcastle-on-Tyne Infirmary under my care on 18th February 1878, suffering from œdema of the face, neck, and upper extremities, and complaining of shortness of breath on the least exertion.

Previous History.—The patient, who had been under my care for some days as an out-patient, stated that he had been through life an unusually strong healthy man. He had neither suffered from rheumatism nor syphilis. His present illness commenced some six weeks previous to admission with shortness of breath on exertion. This was followed by swelling of the face and hands. He had of late occasionally experienced a slight pain under the manubrium sterni and in each shoulder. He had lost flesh, his voice had become "thicker" than it used to be, and there had been some dysphagia.

Condition on Admission.—The patient was extremely dirty, the skin being of a deep brown colour; this was so marked that the case was sent to me as one of Addison's disease. The nipples, genitals, and axillæ, were not specially pigmented. The patient was fairly nourished, though he stated that he had lost flesh. The base of the neck was very much swollen and hard. The face, upper extremities, and upper part of the thoracic wall were œdematous. The superficial veins of the thorax and abdomen were engorged and prominent. (The veins of the head, neck, and upper extremities were also engorged, but were in great part hidden by the œdema.) There was well-marked præcordial vascularity.

The lips were swollen and blue.

The slightest exertion, such as getting out of bed to urinate, caused great shortness of breath. When at rest the breathing was natural. Food seemed to stick at a point corresponding to the manubrium sterni. There was some cough and frothy expectoration.

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[1] *I.e.*, the physical signs at the seat of the aneurism, in contra-distinction to the indirect or pressure signs.

The pupils were equal and contracted. The larynx was not examined. The radial pulses were equal both in time and volume. The carotid pulses seemed equal, but the pulsation in these vessels was difficult to feel owing to the brawny œdema of the neck.

The heart was of natural size; its valves healthy; its action weak.

There was well-marked percussion dulness over the manubrium sterni, and on each side of it especially to the left (see Plate vii. Fig. 2). On auscultation, tubular breathing and greatly increased vocal resonance were heard under the right sterno-clavicular articulation. Over the manubrium the breath sounds were indistinct. The heart sounds were very faintly and distantly heard over the same part. Under the left sterno-clavicular articulation, and to the left of it, the breathing was bronchial. Posteriorly, the respiratory murmur was weaker in the right than in the left lung. Bronchial râles were heard here and there over the chest. There was no glandular enlargement. The blood was normal, except that the adhesiveness of the red globules was increased.

Diagnosis.—The diagnosis was an intra-thoracic tumour. It was thought to be solid—

1*st.* Because of the marked venous engorgement and local œdema.

2*d.* The absence of any decided pain.

3*d.* The somewhat extensive character of the dulness.

4*th.* The tubular breathing and increased vocal resonance under the right clavicle.

5*th.* The absence of any marked vascular sounds over the dull area.

6*th.* The non-accentuation of the aortic second sound at the base.

The Treatment consisted in rest in bed and the administration of full doses of iodide of potassium. (I may remark, in passing, that I believe we can, in many doubtful cases, differentiate aneurism and solid tumour by observing the effects produced by this drug. In cases of aneurism there is generally marked improvement, in cases of tumour, lymphosarcomata, and carcinomata, the effect, so far as my experience goes, is *nil.*)

Progress of the Case.—On 27th February the patient was decidedly better, the œdema was disappearing.

On 6th March, the œdema having almost gone, the thorax was again carefully examined, and important alterations were observed. The heart's action was considerably stronger than before. Well-marked pulsation could be felt in the supra-sternal notch over the manubrium sterni, the heart sounds could be distinctly heard, and they presented that toneless superficial character which is rightly considered so characteristic of an aneurism. The radial pulses were equal both in time and volume. A sphygmographic tracing showed nothing of importance, the only difference being that the percussion stroke was slightly shorter in the right than in the left.

(See Plate vii. Figs. 3 and 4.) (This is a point of some importance, for a good-sized aneurism of the innominate was found after death. The case does not, however, disprove Dr Mahomed's observations as to the diagnosis of innominate aneurism by means of the sphygmograph, for the sac of the aneurism was so filled with coagulum that the normal diameter of the blood channel was accurately preserved.)

On 8th March the patient was worse; the œdema had returned. At the time of my visit he was seized with a severe rigor, during which the temperature rose to 105°·2 F.

On 9th March he spat up some muco-purulent matter mixed with blood. The base of the neck was very hard and brawny, and the skin had a red, erythematous appearance.

On 10th March he died.

The post-mortem was made twenty-seven hours after death. The base of the neck was much swollen and infiltrated with serum containing leucocytes.

The aorta, from its origin to the termination of the transverse portion of the aortic arch, was very much dilated and atheromatous. (Specimen exhibited at May meeting of Edinburgh Medico-Chirurgical Society.) A sacculated aneurism, the size of a small cherry, projected from the anterior surface of the aortic arch. This small aneurism, to the outer surface of which the lung was firmly adherent, was completely filled with firm decolorised clot. The base of the clot was level with the internal surface of the aortic arch.

The innominate artery was irregularly dilated to the size of a bantam's egg. The vessel, at its origin and at its termination, was of normal calibre. The sac of the aneurism pressed upon and was adherent to the trachea.

The left common carotid artery, immediately after arising from the aortic arch, was uniformly dilated to the size of a damson.

The right common carotid, immediately above its origin from the innominate, was dilated to the size of a small cherry.

The left subclavian, immediately above its origin from the aorta, was slightly dilated.

Firm coagula channelled in their centres filled the aneurisms of the innominate, left common carotid, right common carotid, and left subclavian arteries. The canals in the coagula exactly corresponded in their calibre to the normal size of these vessels.

The superior vena cava was pressed upon and greatly obstructed by the dilated arch.

The heart was normal, its weight 10 oz.

The other arteries throughout the body were natural.

Both lungs were adherent at their apices. The upper lobe of the left lung was in places consolidated owing to the deposit of small masses of black pigment. The trachea and bronchi were inflamed.

The other organs were normal.

The cause of the aneurismal dilatation of the arch and its branches was not ascertained.

Plate VII

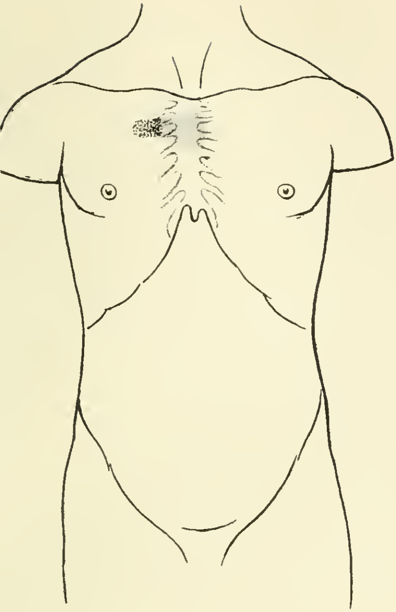


Fig. 1.—Front view of Thorax and Abdomen in case of A. C., showing area of visible pulsation and dulness. The area of pulsation is shaded dark.

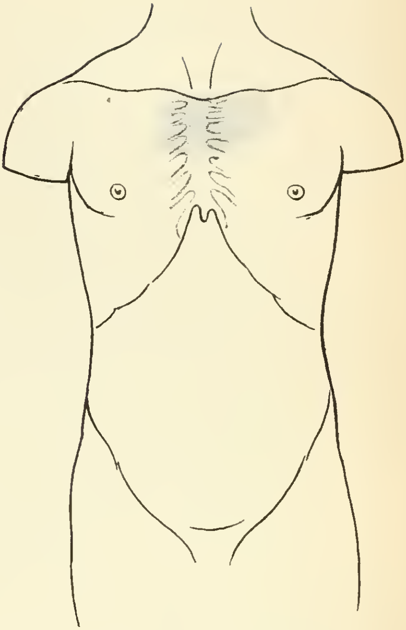


Fig. 2.—Front View of Thorax and Abdomen in case of M. F., showing area of dulness.

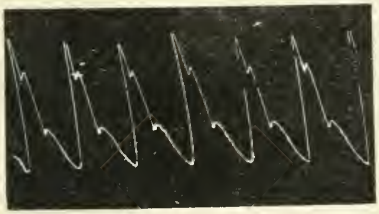


Fig. 3.—Sphygmographic tracing of Right Radial in case of M. F Pressure = 3 oz.

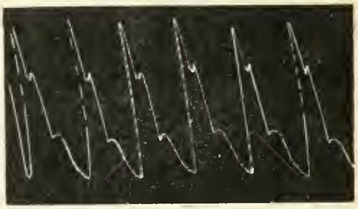
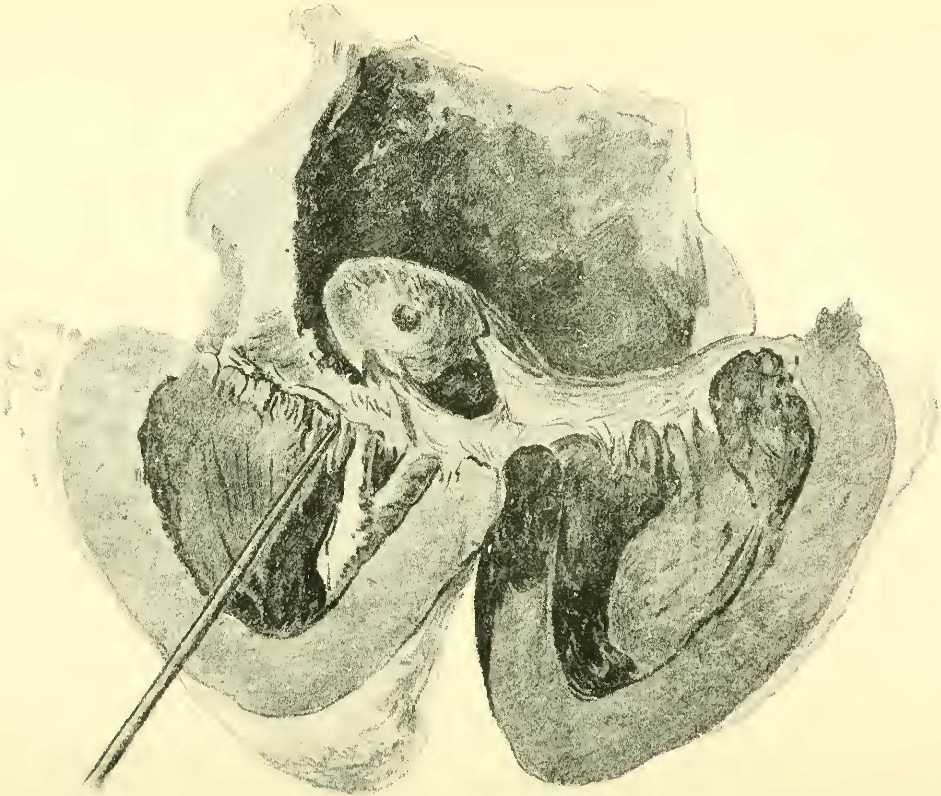


Fig. 4.—Sphygmographic tracing of Left Radial in case of M. F. Pressure = 3 oz.

J. Bartholomew,

Plate VIII



J. Bartholomew, Edinʳ

Rough drawing of the Left Heart, showing the Aneurism in the cavity of the left auricle. A probe has been passed from the cavity of the ventricle into the cavity of the aneurism. The mitral segments have been separated.

Remarks.—After what I have already said, it is unnecessary to refer at greater length to the close manner in which this case simulated a solid intra-thoracic tumour. I pass on therefore to my last case, which is chiefly of pathological interest.

Case of Aneurism of the Left Auricle of the Heart.

J. L., æt. 47, married, an engineer, formerly a soldier, was admitted to the Newcastle-on-Tyne Infirmary, under my care, on 2d November 1876, complaining of shortness of breath, pain in the region of the heart, palpitation, and œdema of the feet.

He had had two attacks of rheumatic fever, had suffered from syphilis, and had drunk whisky to excess.

He was thin and sallow, the face presenting more the appearance of an aortic than of a mitral case.

The left ventricle was somewhat hypertrophied, the apex being situated an inch below, and slightly outside the left nipple. In addition to a soft systolic aortic murmur, and an accentuated second aortic sound, there was a well-marked and independent systolic murmur at the apex. The pulse numbered 68, was regular, and presented in some degree the visible jerking collapsing appearance which is so characteristic of aortic regurgitation.

The urine presented the usual characters seen in cases of the small red granular kidney, being copious, pale, of low specific gravity, and containing only a trace of albumen, and few casts.

The patient remained several weeks under treatment, and was then discharged greatly relieved. A faint diastolic aortic murmur had become audible during his stay in hospital. He continued to attend from time to time as an out-patient, until November 1877, when all his symptoms became greatly aggravated. He was re-admitted under my care and died on 28th January, with all the usual symptoms of advanced mitral disease.

The post-mortem was made twenty-four hours after death. The heart was hypertrophied, weighing 19 oz. In the cavity of the left auricle there was an aneurism fully the size of a large plum. (See Plate viii.) (Specimen shown to Edinburgh Medico-Chirurgical Society on 1st May.) The cavity of the aneurism, which was partly filled with laminated fibrine, communicated with both chambers of the left heart, the posterior segment of the mitral valve being inserted as it were between the two orifices. The mitral valve itself was normal. The aortic segments were thickened and slightly incompetent. The kidneys were good examples of the small contracted form.

ARTICLE III.—*Fibroma Vaginæ.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh.

(*Communicated to the Edinburgh Obstetrical Society*, 10*th April* 1878.)

THE vagina, having but a passive rôle to play in the economy, and being subject to changes rather of a mechanical than of an actively vital character, is remarkably free from the tendency to the development of the various neoplasms displayed so remarkably in the uterus. This remark holds good with regard to the fibrous as much as to other forms of new growth. Hence Kiwisch[1] is perfectly justified in asserting, notwithstanding the demurrer of Scanzoni,[2] followed by M'Clintock,[3] that "the various fibrous tumours are of rare occurrence in the vagina, and most of them have originated in the uterus, and only spread subsequently in the vaginal wall." And so Davis[4] says—"for one example of tumours of this class having its origin from any part of the vaginal surface there are at least ten which are indebted for their source either to the neck or to the interior of the body of the uterus." I have often seen an intra-uterine fibroid falling through the os and filling up the vaginal cavity, as described by Davis; and as often, intra-mural and sub-peritoneal fibroids pressing through the vaginal walls from behind and above, blocking up and destroying the canal, as described by Kiwisch. But I have only met with one of notable size which had its origin in the vaginal parietes.

The patient, a young servant of 25, was sent to my ward by Dr Stewart, of Newport, Fife. She suffered from trouble with the water, and had difficulty in going about her duties in consequence of a swelling at the privates, which led her to suppose herself to be the subject of a falling down of the womb. On examination a mass the size of two fists was seen protruding from the vulva, and having much the appearance of an extensive cystocele. It caused the urethra to project far forwards and upwards, while the perineum was kept on the stretch behind, and the vaginal orifice so completely blocked up that the uterine discharges had escaped with difficulty. It had a soft elastic feel, which could be best likened to the consistence of a good-sized lipoma, and was rooted on the entire breadth of the anterior vaginal wall along the upper two-thirds of the urethra and part of the trigone of the bladder, to an extent in all of about five inches. A sound passed into the bladder showed that though the urethra was twisted and compressed, there was no pouching of the bladder into the base of the tumour.

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[1] *Klinische Vorträge*, ii. Abth. 547.

[2] *Diseases of Females* (Gardner's translation), p. 543.

[3] *Diseases of Women*, p. 197.

[4] Davis's *Obstetric Medicine*, p. 125.

The patient was most anxious to be relieved of the mass, which had existed for about two years, and had lately begun to increase in size and become more troublesome. The mucous membrane was divided by an elliptical incision, and dissected off the tumour, which was, as it were, encapsuled on the surface and at the sides with a layer of condensed cellular tissue. At its base, however, where it grew from the urethro- and vesico-vaginal septum, it was in intimate union with the tissues of the part, which were dissected out as close to the neighbouring cavities as was consistent with their integrity, a sound held in the bladder being used as a guide. Some arteries that spouted were secured by torsion. The edges of the wound were brought together by eight silver-wire stitches. Union by the first intention took place at the upper and lower extremities of the wound; but in the middle, towards the neck of the bladder, suppuration occurred, and healing by granulation. The patient soon made a good recovery. Dr Stewart writes me that, since she left the Infirmary two years ago, she has been in fair general health, and attending to her usual avocations. She had recently been apprehensive that the tumour was growing again, but on examination Dr Stewart did not find it much altered from the time of her recovery from the operation.

The tumour had much of the look as well as the feel of a fatty tumour; but on microscopic examination it is found to consist of desmoid or fibrous tissue, and the softness of the texture was caused by an œdematous infiltration of all the structure. In its histological character this tumour closely corresponds with those described by Höning [1] and Jacobs,[2] and, indeed, with the greater number of these fleshy tumours of the vaginal walls of which the intimate structure has been described.

Klebs [3] alleges that these solid tumours of the vagina are fibromyomatous, apparently misled by theorizing from the structures whence they spring. Virchow [4] more correctly describes them as being most frequently of fibrous texture with a remarkable degree of œdema.

Rokitansky [5] describes the vaginal fibromata as being developed especially on the posterior surface of the canal. This, however, is a mistake. Of twenty-seven cases,[6] where the situation of the tumour is given, seventeen were on the anterior wall, eight only on the posterior wall, and two towards the right side. In the case I have described the tumour was attached with a broad basis, as was the case with nineteen others of the twenty-seven. The remaining eight were polypoid, with a larger or narrower peduncle.

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[1] *Berliner Klinische Wochenschrift*, vol. vi. s. 55. [2] *Ibidem*, s. 258.

[3] *Handbuch der Pathologischen Anatomie*, s. 960.

[4] *Die Krankhaften Geschwülste*, Band. iii. s. 220.

[5] *Pathological Anatomy* (Sydenham Society's translation), ii. 270.

[6] Collected from authorities already referred to, and from—
1. PELLETAN.—*Clinique Chirurgicale*, tome i. p. 225. 1810.
2. BAUDIER.—*Bulletin de la Faculté de Médécine de Paris.* 1820.
3. CURLING.—*London Pathological Transactions*, vol. i. p. 301. 1848.
4. Sir JAMES PAGET.—*Medical Times and Gazette*, 1861, vol. ii. p. 161.
5. LEBERT.—*Anatomie Pathologique*, Atlas II. Pl. 515.
6. CADGE.—*Lancet*, vol. ii. p. 631.
7. W. T. GREENE.—*British Medical*, 1870, vol. i. p. 489.

ARTICLE IV. — *Knot on the Umbilical Cord formed during Pregnancy.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh.

(*Communicated to the Edinburgh Obstetrical Society, 10th April* 1878.)

ON 21st March I attended a lady in her fifth confinement. When I was first called to her, I found the first stage just completed, and the head of the child passing through the os uteri, covered by a loose, firm, unbroken bag of membranes, into a roomy pelvis. When the head had reached the pelvic floor, the bag of membranes being still entire, I could feel through them the right ear of the child, behind the arch of the pubes. The patient was under the influence of chloroform, and whilst I was trying to make out all the outline of the concha, I felt, close to the lobe of the ear, the pulsation of the funis. There was an irregularity on it which I could not account for, and concluded that there was a curl of some of the vessels at that particular spot. Seeing that the cord was lying so low, I was fain to let the membranes protrude through the vulva, and to leave them unruptured till the occiput had turned toward the symphysis pubis. The head hung for a time within the perineum, and when at last it protruded, the cord was found coiled thrice round the neck of the child, and the irregular part that had been felt through the membranes proved to be a true knot, formed at the distance of nine inches from the umbilical extremity. The child must have made some attempt at inspiration within the canals, for it had a little difficulty, though it was clearly a strong healthy boy, in filling the thorax, and only began to cry lustily after it had been turned once or twice from side to side, according to the Marshall Hall ready method.

8. BARNES.—*London Obstetrical Transactions*, vol. x. p. 141.
9. BYRNE.—*Dublin Quarterly Journal*, vol. li. p. 504.
10. MEADOWS.—*London Obstetrical Transactions*, vol. xiv. p. 309.
11. WEST.—*Diseases of Women*, p. 643.
12. BEIGEL.—*Krankheiten des Weiblechen Geschlechtes*, Band ii. s. 589.
13. HILDEBRANDT. — *Die Neue Gynäkologische Universitäts-Klinik und Hebammen Lehr-anstalt*, 1876, s. 99.
14. WIGGLESWORTH.—*Archives of Dermatology* (quoted in Schmidt's *Jahrbuch*, vol. 172, p. 247).
15. DEMARQUAY.—*Parmentier bulletin de la soc. anat.*, 1860, p. 245.
16. GREMLER.—*Preussische Vereinszeitung*, 1843, No. 33.

Chantreuil[1] gives as the four "conditions which favour the production of knots on the cord.

"1*st*. Length of cord.

"2*d*. Abundance of liquor amnii.

"3*d*. Movements of the mother.

"4*th*. (Exaggerated) movements of the fœtus."

Of these, two were markedly present in this instance—the 1st and the 4th. For the cord measured 35 inches, instead of the 21½ inches which I have found as the average measurement in 700 cords. And the mother tells me that in none of her previous children—two boys and two girls—had she felt the movements so frequent and so strong as with this fifth child, the intrauterine movements of which had sometimes caused her considerable distress. There was also a fair amount of liquor amnii, but no notable excess.

Dr Read,[2] who writes a very interesting essay on the formation of knots on the umbilical cord, illustrated by excellent woodcuts of the different varieties, argues that they are always formed at the time of delivery, and combats the opinion that they are ever tied during the intrauterine life of the child. "The evidence upon which this opinion is based," he says, "may be divided into two kinds:—1st, that derived from the state or condition of the fœtus and the cord at the place of the knot; 2d, the complexity of the knot itself, and the supposed difficulty of its being tied at the time of delivery, when the child passes through the organs of the mother." He is successful enough in dealing with the second of these heads of evidence; but we still believe that his attack on the first is a failure, for, in the condition of the cord at least, we have a proof of the knotting of it long before labour. The case I have brought before you supplies a new kind of evidence in the same direction, seeing that the knot was felt through the yet unbroken membranes, and must have been formed previously to the onset of labour; and when we remember that the knot is near the fœtal extremity of the cord, we must even conclude that it was formed previously to the further coiling of the funis round the neck of the child.

ARTICLE V.—*Complete Torsion of the Cervix uteri (with considerable Thickening and Dilatation of the Os) of a Cow.* By Professor WALLEY, Royal (Dick's) Veterinary College.

(*Read before the Obstetrical Society of Edinburgh, 10th April* 1878.)

Subject.—Small Danish cow, which had been landed from Copenhagen on the 7th and purchased in Edinburgh by a Leith dairyman on the 8th of March. She travelled to Leith and shortly after her arrival lay down, never after rising.

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[1] *Thèse des dispositions du cordon*, Paris, 1875, p. 115.

[2] *American Journal of the Medical Sciences*, 1861, xlii. 381.

My attention was directed to her on the 13th of March. I was informed that since purchase she had eaten very sparingly—had, in fact, been supported mainly on gruel.

On external manipulation I discovered that the uterus contained a very large fœtus, and suspecting that this had something to do with the paralysis, I made a vaginal exploration, which resulted in the detection of torsion of the cervix uteri. I was only able to pass two fingers and that in a half spiral manner from left to right. Rectal exploration confirmed the diagnosis, and also revealed the further fact that great thickening of the cervix had taken place. As my patient was in a very exhausted condition, and as I had not sufficient assistance, I determined to delay operative interference for several hours, supporting her in the meantime with stimulants and gruel.

Deciding upon attempting reduction of the twist by version, or, failing this, by making an incision through the abdominal walls and introducing my hand into the abdomen, I proceeded, in the evening, with the aid of several students, to carry out my intention.

The animal was turned twice completely over, from left to right (in the same direction as the twist), with the effect of nearly reducing it; but, on proceeding to turn a third time, I discovered she was dying, death taking place in a few minutes afterwards. After death I had the body turned once more when I found that the torsion was completely reduced, but that the os and cervix were thoroughly occluded by new material deposited in their structures.

Autopsy.—Unfortunately, I could not be present when the carcase was dressed, consequently I only saw the uterus and its contents after removal from the body, and was thus prevented from making any investigation as to the condition of the ligaments. The uterus contained a large, fully-developed fœtus, with placenta and uterine fluids; its coats were extensively thickened throughout, its bloodvessels engorged with coagulated blood, and its lymphatics with lymph: the seat of the torsion was indelibly marked by the blanched, compressed, and twisted condition of the structures of the involved parts. The cervix, anteriorly to the torsion, was thickened to the extent of several inches all round, the vaginal coats normal, and its large vessels empty; the large vessels of the uterus (arteries and veins) contained immense, firm thrombi.

There had been no interference with the rectum, such as is usually seen in these cases, from involvement of the recto-uterine folds.

The cause of the lesion or the length of time which it had been in existence I had no means of determining; but from the thickened and indurated condition of the cervix uteri I am of opinion that it must have been in existence for several weeks. Had the animal been strong, and the os and cervix uteri normal, I entertain no doubts as to the success of operative interference.

ARTICLE VI.—*Diffuse Spermatic Aneurism.* By Professor WALLEY, Royal (Dick's Veterinary College.

(*Read before the Obstetrical Society of Edinburgh*, 10*th April* 1878.)

Subject.—A Danish bull, rising three years old. My attention was directed to this animal by the enormous size of its scrotum. It was three times the normal bulk, and about 18 inches in length.

On manipulation, I quickly discovered that I had to deal with aneurism of the left spermatic artery, although I had never seen or heard of such a case before, either in man or animals; indeed, I look upon it as unique in our list of aneurisms.

The skin of the scrotum was slightly reddened, increased in temperature, and attenuated; its surface on the left side was irregular (nodulated), the irregularities corresponding to the coils of the artery, which in several places was interruptedly dilated. On the application of slight pressure with the finger on the surface of these elevations, a distinct purring thrill was detected; and, by auscultation, a humming bruit.

Pulsation in the artery was distinctly visible to the eye, the pulsation numbering 86 per minute and synchronous with the heart's action. There was very slight fever, although the animal evinced signs of much pain by uneasy movements and abduction of the near leg and by lameness in progression. He was in very fair condition.

The right testicle was normal; the left considerably reduced in size, and its vaginal sac contained a small quantity of fluid, as detected by fluctuation: it was forced upwards and inwards by the pressure of the aneurism.

Immediately on the death of the animal I removed the scrotum and testicles *en masse* and as close to the abdomen as possible, when the mass very quickly reduced to about half its original size, owing to the artery being emptied of its blood.

Careful examination of the abdominal portion of the artery showed that it was dilated up to its origin, but there was no evidence of cardiac or other vascular derangement in any other part of the body.

My colleague, Professor M'Fadyean, undertook the injection of the artery, in which he succeeded very well, the wax returning by the vein; subsequently, that gentleman assisted me in the dissection of the specimen.

The right testicle and bloodvessels were found normal, the left considerably atrophied and bent at an acute angle at the globus major, the globus minor being superiorly placed. No wax was discoverable in any of the vessels of the testicle itself, showing that they had been occluded by the malposition, and thus accounting for the atrophy. The vaginal sac contained two or three ounces of straw-coloured serum. The wax had passed into the spermatic vein, which was thoroughly injected. Slight hæmorrhage had taken place in the coats of the artery at the seat of one of the dilatations. When dried, the artery with the testicle weighed 27 ounces. Allowing 1½ or 2 ounces for dried structures, the quantity of wax contained in the artery would be 25 ounces.

The enormous coils give the specimen a remarkable and interesting appearance.

ARTICLE VII.—*Placenta Prævia, or Unavoidable Hæmorrhage.*

By CHARLES BELL, M.D., F.R.C.P.E.

(*Concluded from page* 1018.)

Locality.—The situation of the placenta, which leads to unavoidable hæmorrhage, is a subject of deep interest, and although the idea entertained by the older authors in regard to it was most erroneous, that of many of the accoucheurs of the present day, notwithstanding their more extended advantages, is in many instances most erroneous and unsatisfactory. Under the impression that the fundus was more supplied with blood for the nourishment of the fœtus and for the secretion of the catamenia, the older authors supposed that the placenta was always attached to it; and when found at the os uteri, that it must have been separated from its original attachment by some accident, such as a blow or fall, or some other injury.[1] Levret[2] was the first to point out this error; and remarked that when the placenta was once attached to the fundus it was impossible for it to slip down by its own weight to the orifice of the womb, in consequence of the continued tendency of the uterine walls to contract and the reaction of the uterus contained within the membranes. Some authors of the present day go to the opposite extreme from the ancients, and imagine that the placenta is sometimes attached to the cervix uteri. Even Dr Rigby seems to entertain this idea, as he says that when the placenta is fixed to that part of the womb which dilates as labour advances, namely, the "collum and os uteri, an hæmorrhage must unavoidably be produced." Dr Lee[3] frequently refers to the placenta being felt adhering to the neck of the uterus. Cazeau, in enumerating the different localities of the placenta, says, "finally, we have the term intro-cervical insertion."[4] Barnes not only asserts that the placenta is situated on the cervix, but he gives a diagram illustrating what he calls the seat of the "cervico-orificial placenta." Many other authors might be cited as holding the same opinion, for it is very general, but I consider that those I have quoted are sufficient to show the prevalence of the error, even among accoucheurs of high standing.

While there can be no doubt as to the placenta being sometimes attached to the cervix uteri in early pregnancy, when it is obviously the cause of abortion,—a circumstance I have referred to elsewhere, when treating of abortion in the early months, when I reported an interesting case, in which the placenta was found attached to the cervix, and which was the obvious cause of abortion and violent hæmorrhage,—it is, however, very questionable if it is ever found attached to the cervix in advanced pregnancy, because, as it becomes developed, as gestation advances, it would act like a sponge-tent, which is the most effectual means of bringing on uterine action.

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[1] Mauriceau, *op. cit.*, p. 155.

[2] *Op. cit.*, p. 348.

[3] *Clinical Midwifery*, pp. 142, 144, 145, 152.

[4] *Op. cit.*, p. 755.

The question is, therefore, where is it that the placenta is attached in unavoidable hæmorrhage, and why is it that when so situated that hæmorrhage is inevitable? In such circumstances it is attached to the lower segment of the uterus, immediately within the internal os, which it may cover either partially or entirely, and its development goes on as when placed elsewhere *pari passu* with that of the uterus. During this process there seems to be a mutual correspondence between the two organs, hence there is seldom any hæmorrhage in the early months of pregnancy; but as it advances towards the full time the correspondence in some instances seems to be diminished, or it entirely ceases, while the uterus continues to expand, and consequently a detachment may take place, or the placenta may be so much put on the stretch that its vessels may be ruptured, giving rise to hæmorrhage,—a circumstance which will be more clearly explained when treating of the source of hæmorrhage. If, however, we examine the external surface of the placenta, we will discover how wisely and beautifully this accident is provided against, in ordinary circumstances, by its cotyledonous formation. It is important to observe that its cotyledons are each supplied by its individual class of vessels, forming, as it were, a miniature placenta,[1] and that they are so constructed as to admit of a certain degree of expansion without injury, by which means the placenta is enabled to adhere more closely to the walls of the uterus, and to accommodate itself to its altered form.

But if the placenta is liable to be put on the stretch, and in consequence its cotyledons readily separated when placed on the lower segment of the uterus, it may be asked, How does the same thing not take place when it is placed higher on the walls of the uterus when uterine action comes on? This is easily explained, as the uterine contractions affect it differently, according to its locality. When it is attached to the higher parts of the uterus, the contractions, acting in a perpendicular direction, have the effect of shortening the uterus, and consequently draws the cotyledons more closely together, on the same principle as pressure acts on a sponge; whereas, when the placenta is situated on the lower segment of the uterus, the effect of the contractions being to dilate, the inevitable result will be to separate the cotyledons as labour advances; and hæmorrhage will follow, especially in central placenta prævia, when the fœtal head descends and presses against it, making it bulge downwards. This is more particularly likely to take place when it is deprived of the support of the cervix by its being dilated. This is illustrated in Dr Hunter's valuable plate of placenta prævia, in the description of which he says, this is "a view of the womb and vagina fully opened on the back part to show the situation of the child, and the lower part of the placenta at the inside of the mouth of the womb under the child's head, and detached from the womb, the occasion of fatal hæmorrhage."

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[1] Levret, *op. cit*, p. 38.

That was evidently a case of central presentation of the placenta, which was apparently attached above the internal os; but, judging from the engraving, there is no indication of its having been attached to any part of the cervix. In order to satisfy myself on this point, however, I went to the Museum in the Glasgow University, for the purpose of examining the preparation, but I was much disappointed to find that it was not there; but I found another one which goes far to prove the correctness of the opinion I have prepared above, namely, that the placenta is not attached to the cervix in advanced pregnancy. It is a beautiful preparation, which represents nearly a complete central presentation; but the portion which crossed the internal os, although it bulges down into the cervix, gives no indication of having been attached to it. It is perfectly smooth and covered with a membrane which completely conceals the cotyledons, and giving the external surface the same appearance as the fœtal surface. The cervix which is dilated is also comparatively smooth, and there is not the slightest vestige of uterine vessels with open mouth, as there would have been had the placenta been torn from it. But there was at the posterior part of the placenta, as represented in the preparation, a ragged tuft hanging down, which may have been the immediate source of the fatal hæmorrhage,—thus verifying to a certain extent Sir James Simpson's opinion that the placenta is frequently the immediate source of hæmorrhage. That eminent accoucheur was mistaken, however, in supposing that in order to the placenta becoming the seat of hæmorrhage it was necessary that it should be detached, to a greater or less extent, from the uterus. He states, "When the placenta is partially separated from the uterus there are two surfaces left exposed by that separation, namely, a portion of the internal surface of the uterus, and a portion of the external surface of the placenta. According to the usual explanation, such as I have shown it to be, the hæmorrhage is supposed to proceed from the first of these exposed surfaces, namely, that of the uterus. On the contrary, I am assured of opinion that it chiefly, and in most instances entirely, proceeds from the other surface, namely, that of the placenta." This is not an original idea on his part, however, as he seems to have borrowed it from his predecessors in his chair, as he says, "I feel convinced that the pathological opinion on this point advocated by the late Professor Hamilton is the correct explanation." After citing the opinions of Drs Davis, Dewees, and Ingleby in reference to the origin of the hæmorrhage from the exposed uterine surface in unavoidable and accidental flooding, Dr Hamilton observes:—"Many other authorities may be quoted to prove the common opinion upon the subject; and yet the author, from the earliest period of his professional life, has been anxious to show that hæmorrhage in these cases proceeds from the separated portion of the placenta more than from the ruptured uterine vessels." [1]

Dr Matthews Duncan seems fully to entertain this opinion, as he states, "For my part, relying partly on my own observation, I believe such hæmorrhage to occur most frequently from the placenta."[2] But, in explaining the fact, he inconsistently says the hæmorrhage is occasioned "by rupture of the utero-placental vessel at or above the internal os uteri;" or, "by rupture of a marginal utero-placental sinus within the area of the spontaneous primitive detachment when the placenta is inserted, not centrally or covering the internal os, but with a margin at or near the internal os."[3]

There is an obvious contradiction in this passage; for, if there is hæmorrhage from a sinus within the area of "spontaneous detachment," there must unquestionably be a separation of the placenta from the uterus to a greater or less extent; otherwise, the blood must find its way through the membranes where they join the placenta, which would be rather a difficult matter, when we consider their natural toughness and their firm adhesion to the edge of the placenta.

But there may be a partial detachment of the placenta during the natural development of the lower segment of the uterus to which the placenta adheres, proceeding either from a delicacy in the adhesion, or from an unusual resistance on the part of the cotyledons, which prevents their separating so as to allow of the placenta accommodating itself to the increasing size of the uterus. This usually first takes place about the sixth month, and it may recur from time to time, more especially at what should be a monthly period, until the full term of pregnancy, when the loss of blood may be rendered more profuse by the labour pains separating the placenta to a greater extent, and exposing the mouths of a greater number of uterine vessels.

In making these remarks, I am aware that I am opposing Dr Duncan's theory that the lower segment of the uterus, or hemisphere, as it is called, does not become developed until the end of pregnancy; and that even within a few weeks of the full term, he states that the internal os will admit little more than a bougie;

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[1] *The Select Obstetrical Works of Sir James Simpson*, p 219.

[2] *Mechanism of Natural and Morbid Parturition*, p. 306.

[3] *Op. cit.*, pp. 306, 307.

but this is totally at variance with my own observation, and with the opinion of the highest authorities on the development of the uterus, and particularly with Dr Hunter's splendid engraving of the gravid uterus—although quite in accordance with another of this eminent accoucheur's theories, namely, that the fœtus at the full period of pregnancy is so fitted to the uterine cavity, that it cannot change its position. He states that "as the fœtus approaches the full time, it becomes in size and form more and more adapted to the cavity in which it was contained; so that at last the containing cavity and the fœtus were, as a general rule, so fitted to one another, that any such extensive motion as was involved in the change from a breech to a head presentation was impossible."[1] These remarks were made in reference to a case of mine, in which I stated that the fœtus had obviously changed from a head to a breech presentation in the eighth month, in consequence of a sudden mental impression made on the mother, and that the fœtal head was retained in its high position, apparently, by the cord being twice round the neck.

From what I have stated, it is obvious that there are two distinct sources of hæmorrhage in placenta prævia, namely, the placenta itself and the uterus, and it would be an important point in practice could they be distinguished, as it might lead to more satisfactory treatment. This circumstance, however, will appear more clearly when considering the treatment; but in the meantime it will be interesting to investigate what is the most likely cause of the complication.

Cause.—Various opinions have been entertained on this subject. The older authors, as has been already stated, imagined that when the placenta was found at the lower part of the womb, that it had been displaced by some shock from its original attachment at the fundus; but the opinion which has been most generally entertained in the present day is, that the ovum is not impregnated until it has reached the lower segment of the collum,[2] which is a very likely circumstance, and therefore may be the most frequent cause; but other causes have been assigned, which are well worthy consideration. The one is clearly indicated in Sir Edward Home's interesting paper on the passage of the ovum from the ovarium to the uterus, in which it is stated that the ovum had passed directly into the womb, there having been no apparent decidua covering the entrance of the Fallopian tube, and the ovum was found "concealed among the long fibres of congealable lymph near the cervix."[3] A similar case is reported by Dr Lee, who informs us "that in the body of a woman who had poisoned herself in the third month of pregnancy, he found both Fallopian

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[1] *Association Medical Journal*, 22d June 1853.

[2] Dr Read on *Placenta Prævia*, p. 37.

[3] *Philosophical Transactions of the Royal Society of London in* 1817, part i. p. 254.

tubes pervious, and the ovum being attached by the placenta to the inferior segment of the uterus, it was obvious that it could not have pressed before it the decidua reflexa in the manner usually represented."[1]

This important fact received no particular attention until it was brought prominently forward by Dr Doherty, in his excellent paper read before the Dublin Obstetrical Society in 1845, in which he says, "The occurrence of full placental presentation, where that substance springs from the whole disk of the mouth of the womb, is, I believe, referable to deficiency in the decidua, which should naturally extend across the orifice of the Fallopian tubes, and the absence, consequently, of the support which ordinarily it is thus enabled to give to the ovum."[2] The frequency with which placenta prævia occurs in some women would lead us to infer that the deficiency of the decidual covering of the orifice of the Fallopian tubes is not always accidental, but may proceed from a natural defect in the uterus which renders it unfit to form decidua at that point.

While deficiency of the decidua may thus be considered a cause of placenta prævia, a like result may probably arise from preternatural delicacy of the decidua, by which it is rendered unable to support the ovum on its arrival in the uterus, or that its weakness induces it to yield easily to any severe shock occurring previous to the ovum being securely attached to the uterus, when it would naturally fall to the more dependent part of the uterus. But these speculations are more interesting in a physiological point of view than practically useful; because, whatever may be the cause of the complication, it cannot be prevented by any human means.

Treatment.—There has hitherto been a remarkable degree of empiricism in the treatment of placenta prævia, arising apparently from its alarming and dangerous character, which has induced some practitioners to endeavour to check the flooding without delay, even at the sacrifice of the child's life. Many remedies have in consequence been adopted, but the first in importance is the artificial delivery of the child by turning. This operation was first suggested by Ambrose Pare, and afterwards strongly advocated by Guillemeau, and it has been considered the most valuable remedy by the generality of the profession since his time, and it is certainly the most advisable when the os uteri is sufficiently dilated, or dilatable to admit of its being performed, more especially if the woman has stamina enough to undergo the operation, and there is an obvious tendency in the uterus to contract. Should there be no evidence of uterine energy, however, it will be necessary to have recourse to stimulants, and the ergot, given either by the mouth or by subcutaneous injection, in order to rouse the uterine energies if possible before attempting the operation. But some accoucheurs have objected to artificial delivery, from its being liable to be followed by fatal consequences. There is too much reason to believe, however, that these results are more frequently produced by its being injudiciously performed than its inherent character. Nevertheless, the prejudice against it has led to two other operations being suggested as a substitute for it: the one by Sir James Simpson, the other by Dr Barnes. The operation suggested by Sir James Simpson is the entire separation of the placenta, which he so strenuously advocated, that some practitioners, ignorant of the history of the subject, have supposed that he originated it; but he only revived it, as it was performed by Portal two hundred years ago, and the success attending his operations seems to have induced others more recently to practise it; the most celebrated of whom, previous to Sir James Simpson, was Mr Kinderwood, who reports several cases, some of which were successful, so far as the mother was concerned; others were fatal to both mother and child. It is very questionable if the cases in which the mothers were saved would not have been equally successful had turning been adopted in place of entire separation of the placenta, when in all probability the child might have been saved.

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[1] *Medico-Chirurgical Transactions*, vol. xviii. p. 493. London.

[2] *Dublin Journal of Medical Science*, vol. xxvii. p. 333.

The argument used by Sir James Simpson in support of this operation is in many instances quite untenable, as it goes on the ground that hæmorrhage "chiefly, and in most instances entirely proceeds from the other surface, namely, that of the placenta;" "or, perhaps, more properly speaking, of one large maternal vascular bag, into which the blood of the mother is conveyed by the utero-placental arteries,"[1] and by its removal the hæmorrhage would cease.

Upon this principle the placenta might be compared to a reservoir supplied by many pipes, and from which, when injured, fluid might escape; but, unless a check were put on the supplying vessels, its mere removal from its locality would not prevent the drain upon the source from which the fluid came; neither will the separation of the placenta check the hæmorrhage from the uterus, unless it has energy enough to contract on its vessels, so as to prevent the circulation through them after the placenta is detached. Therefore, if the patient is so exhausted that the uterus cannot act, this operation is equally hazardous to the mother as turning, while it is almost certainly fatal to the child.

Dr Radford, who seems to be favourable to this operation, says —"I conclude that on a complete separation of the placenta the hæmorrhage is immediately and completely suppressed, provided the uterus is in a condition so far to contract as to force down the head with the placenta upon the uterine openings."[2] This is a very erroneous idea, as a little observation will show that the fœtal head is ill adapted to act as a plug; and no internal pressure would have the effect of suppressing the hæmorrhage, which can only be overcome by the same action on the part of the uterus and its vessels previous to the birth of the child as takes place after delivery.

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[1] *Op. cit.* p. 219.

[2] *Prov. Med. and Surg. Journ.*, 1845, quoted by Dr Barnes, p. 46.

Dr Barnes, while he strongly objects to the entire separation of the placenta, advises another operation on the same principle, which has for its object the extension of the partial separation of the placenta, then leaving the case to nature. Now, experience shows that the great cause of anxiety on the part of the accoucheur, and danger to the mother and child, is partial separation of the placenta, in some cases even to a limited extent; yet, this author considers that by this operation "the case is resolved into a natural labour." He founds this remarkable opinion on the supposition that "there is then an anatomical or physiological limit to the extent of placenta liable to detachment during the expansion of the womb;"[1] and that he has discovered that limit, and can discriminate it during labour, and he designates it the "cervical zone," "the region of dangerous attachment," and by separating the placenta from it hæmorrhage ceases. This is, however, a mere hypothesis, as there is no part of the uterus from which the placenta can be separated artificially without the danger of hæmorrhage, unless uterine contraction immediately takes place. Therefore this operation is equally, if not more, hazardous than the one recommended by Sir James Simpson.

The only tenable argument which has been used in favour of either of these operations is that they can be performed with less shock to the mother, and requires less manipulation, or manual violence as Barnes calls it, than artificial delivery. But this is a mistaken idea. For, in the first place, the os must be dilated to considerable extent before it is possible to introduce the finger sufficiently for the separation of the placenta; and, unless there is great tendency to detachment on the part of the placenta, a considerable degree of force will be required to effect it. This is verified in Dr Reid's case, formerly referred to, in which he could not force his finger into the anterior part of the uterus to which the placenta adhered; and every one must have experienced the difficulty of separating the placenta in hæmorrhage occurring after delivery of the child.

There are other remedies which have been deservedly appreciated in unavoidable hæmorrhage, namely, plugging and rupturing the membranes, both of which are most beneficial in the cases suitable for their employment.

Having referred to the most important remedies which have been employed in placenta prævia, it now remains to decide in what cases they are most likely to be useful; and this is the most difficult part the accoucheur has to perform, and his success will, in a great measure, depend on his forming a correct diagnosis. If the os uteri is small and rigid, this will be rendered a very difficult matter. Therefore our duty will be, in the first place, to have recourse to plugging, until this state of the os is overcome; and the best kind of plug is the indiarubber bag filled with air, which Dr Keiller had the merit of introducing into midwifery practice. This is infinitely superior to "Dr Barnes's bags," as they are called, which are filled with water. The bag filled with air not only affords a light and good support, but it enables the accoucheur to ascertain if the hæmorrhage is still going on, and it is easily applied; whereas, if a sponge or handkerchief is employed, it is introduced with difficulty, and the blood is prevented escaping, so that the accoucheur is kept in the dark as to the continuance of the hæmorrhage, unless the general condition of the patient enlightens him.

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[1] *Op. cit.* p. 54.

If the labour pains are active, it will be desirable to remove the plug to ascertain what progress has been made in the dilation of the os, and if it is sufficiently dilated, or easily dilatable to admit the hand, and the child has been ascertained to be alive, and the hæmorrhage profuse, there ought to be no delay in delivery by means of turning. But if the child is dead, and the mother much exhausted, it may become a question if the entire separation of the placenta may not be attempted, especially if there is a natural tendency to its being detached by the uterine contractions. If the os uteri is not sufficiently dilated to admit of either of these operations, and if the case is one of central presentation, the plug should be again employed, as it is probable that the hæmorrhage is caused by the placenta being put on the stretch by the pressure of the child's head, and the support afforded by the plug may have the effect of checking it until labour is further advanced. But if it is a partial presentation, and the distended membranes are found occupying the entire disk of the os, rupturing them may have the effect of checking the hæmorrhage, by allowing the uterus to contract on the vessels from which it was flowing, just in the same manner as takes place when they are ruptured in accidental hæmorrhage. In regard to Barnes's operation, I cannot imagine any case in which it would be justifiable.

ARTICLE VIII.—*The Theory and Practice of Non-Restraint in the Treatment of the Insane.* By W. LAUDER LINDSAY, M.D., F.R.S.E., Physician to the Murray Royal Institution, Perth.

(*Concluded from* p. 899.)

V.—OPPONENTS OF CONOLLYISM.

THOSE who, whether they themselves use it or not, approve of the use, in certain exceptional cases, of some simple form of *mechanical restraint* as preferable, as more efficient—from all points of view—and more humane than the *substitutes* that have been employed for the mere fettering for the moment of the hands; those who regard the dogma that mechanical restraint is *never* to be employed as an intolerant and mischievous absurdity—an insult to the common sense and common feeling of the physician engaged in lunacy practice—a subjection to ignominious bondage of his freedom in opinion and practice—constitute the *great majority of alienists throughout the world.* These authorities include, for instance—

I. *In Britain:*—1. The Lunacy Boards and Commissioners of each of the three kingdoms. But it is significant that it is *in England*—where it was to have been expected that *reaction* would be strongest and most striking from and after the too-long-existing thraldom of Conollyism—that the public lunacy authorities have most decidedly not only permitted the use of *mechanical restraint* in English asylums, but have *recommended,* if not insisted upon, it. Thus Dr Blandford tells us, in his excellent manual for students,[1] that, "at the suggestion of the Commissioners in Lunacy themselves, I have employed mechanical restraint." But such suggestions by the Commissioners have not always been acted on. In a case in which they recommended it—and it was not employed,—"the patient, though constantly watched by two attendants, gouged out both his eyes."[2] This may be set down as a deplorable but exceptional accident; but, in fact, it is a bagatelle compared with the major evils that are incessantly arising from the *non-use of mechanical restraint when it ought to be used.* In 1869, the English Commissioners themselves tell us: "We intimated . . . . our opinion that, in such exceptional circumstances—for the better protection of a patient during the administration of food by the stomach-pump—mechanical restraint, by means of a padded-chair or other suitable appliances, would be justifiable, and *preferable to manual coercion.*" They did this in consequence of their entertaining no doubt that certain *rib-fractures* at the Wakefield Asylum "occurred during the struggles reported to have taken place whilst the patient was forcibly fed and held by the attendants."[3]

2. Individual members of the Lunacy Boards of the three kingdoms; such as—Dr W. A. F. Browne; and Dr Sibbald (Scotland); with Dr Wilkes (England); and Dr Crichton Browne, one of the Visitors of Chancery Lunatics.

3. The authors of all our standard works on psychological medicine, to wit—the late Professor Laycock (Edinburgh); the late Dr Thurnam (Wilts); the late Dr Thompson Dickson (London); the late Dr Forbes Winslow (London); Dr Millar

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[1] *Insanity and its Treatment*, 1871, p. 211.

[2] According to Dr Yellowlees of Glasgow, *Lancet*, 22d June 1872, p. 881, in an admirable letter on "Mechanical Restraint in Cases of Insanity."

[3] *Twenty-Third Report to Parliament*, p. 44.

(London); Dr Noble (Manchester); Dr Bucknill, Dr Blandford, and Dr Sheppard—all of London.

4. The medical directors of our largest asylums, including the late Dr Skae (Edinburgh); the late Dr Stewart (Belfast); Dr Yellowlees (Glasgow); Dr Murray Lindsay—one of Conolly's own successors in office at Hanwell; Dr Wickham, formerly of the Royal Edinburgh Asylum, now of that of Newcastle; Dr Rogers of Rainhill, Lancashire; Dr John Robertson of the Monaghan Asylum, Ireland,—a brother of Dr Lockhart Robertson, and for many years one of the medical officers of Hanwell;[1] Dr Ashe of Dundrum, Dublin,—the gainer of two of the Carmichael Prizes of the University of Dublin, and one of the most accomplished alienists in Ireland; Dr Bayley (Northampton); Dr Manley (Hants); Dr Biggs (Wandsworth, Surrey); Dr Green (Birmingham); Dr Hilis (Norfolk).

5. The physicians of our best *Private Asylums*, including Dr Bodington of Ashwood House, Staffordshire; Dr Hewson of Coton Hill, in the same county; Dr Haynes, formerly of the Royal Edinburgh Asylum, now of Eastnor House, Malvern; Dr Kitching, formerly of the Friend's Retreat, York; Dr Newington of Ticehurst, Sussex; Dr Fox of Brislington House, Bristol.

6. A section of the medical press, the *Medical Times and Gazette*, for instance, has been as conspicuous for its temperate advocacy of the use of mechanical restraint in proper cases as the *Journal of Mental Science* and the *Lancet* have been for intemperately denouncing it. An editorial article in the said *Medical Times*, on "Broken Ribs in the Insane," in 1870,[2] contains the following exposition of its creed:—"It is useless to talk of such (patients) as amenable to reason; they are amenable only to brute force. . . . . Such men *must* be hindered from injuring themselves and others. The question is how? Force of some kind must be used. . . . . With six or eight attendants holding a man . . . . . it is impossible that he should escape bruising, even should he suffer no more serious injury. . . . Whether should we prefer to be so held by six or eight men, with their localised grips, or by a stout sheet of canvas uniformly resistant? For our own part, we should, being sane, choose the latter. . . . In exceptional cases force of some kind must be used; the only question is *how best to apply it*. . . . Force is now used, we contend, *not* in the best way. . . . Restraint does exist now in the shape of *padded rooms* and attendants' hands. Why no other forms should be used we are at a loss to see." In another leading article on "The Insane and their Management," referring

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[1] According to the Lunacy Commissioners for Ireland, in their *Twenty-Third Report to Parliament* (p. 78), where they remark on "the absence of restraint generally in Irish Asylums." Mullingar, however, would appear to be another exception (p. 81), and Londonderry a third.

[2] Vol. i. for 1870, p. 207.

to acute maniacs, insane epileptics, and general paralytics, the writer declares, "restraint in some form or other is necessary."[1]

The *Journal of Psychological Medicine*, also, as conducted by the late Dr Forbes Winslow, did good service by the advocacy of moderate views. An important *résumé* of the whole subject of "Non-mechanical restraint in the treatment of the Insane" was given in 1854.[2] It summarizes the opinions and practice of all the then leading alienists of England, and classifies them according to their said opinions and practice. But it brings out certain curiosities of classification that are something more than curious. For instance, among the "advocates for restraint in surgical cases," we find the names of Dr Conolly himself, and his son-in-law, Dr Harrington Tuke,[3] while the "advocates for the total abolition of mechanical restraint"[4] include neither Conolly, Harrington Tuke, Maudsley, nor Lockhart Robertson!

Of equal interest, and bearing intimately on the subject of restraint, is another article concerning "Seclusion in the Treatment of the Insane,"[5] the writer of which—probably, as in the other case, the editor himself—Dr Forbes Winslow, remarks: "If a superintendent administer morphia, or any other preparation of opium largely, he may boast of his rare cases of mechanical restraint and seclusion; but he ought not to boast of his skill and judgment in the treatment. . . . If he pharisaically claim to be superior in benevolence and humanity to those who do use them when they think it best for the patient, we have no hesitation in saying that the charge of inhumanity and cruelty rather rests upon him. . . . If deliriously moving hands and feet are mischievous, do not hesitate in restraining them by any benevolently appropriate means. But, above all, let not the medical practitioner, from any foolish fear of incurring censure or obloquy, restrain his own freedom of action, or the freedom of action of his brethren, by the dogmatic and intolerant enunciation of abstract principles. Such conduct is subversive of all independent, manly thought, and will inevitably bring on those who adopt it the imputation of cant, humbug, bigotry—things discreditable to the noble art of physic."

II. On the *Continent of Europe*.—As a rule, all the most distinguished writers on psychiatric medicine, including the late Prof. Guislain of Ghent, author of the *Leçons orales* and *Traité sur l'aliénation mentale et sur les hospices des aliénés;* with the late Dr Bulckens of Gheel; Dr Pariqot and Dr Lentz, representing Belgium; the late Prof. Schroeder van der Kolk (Holland); Dr Magnan,[6] Dr Marcé, and Dr Voisin (France); Dr Neumann, Dr Stolz, and Dr Erlenmeyer (Germany).

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[1] Vol. i. for 1870, p. 469.

[2] Vol. vii. p. 541.

[3] *Ibid.*, p. 545.

[4] *Ibid.*, p. 544.

[5] Vol. viii. (1855) pp. 34, 35.

[6] His use of the "Maillot" in the St Anne Asylum, Paris, is referred to in the *Brit. Med. Journal*, vol. ii. for 1876, p. 805.

The *Norwegian Law* (of 1848) recognises the necessity that exists for the imposition of mechanical restraint in Norwegian lunatic asylums; but it recommends, very properly, that its use should be as seldom resorted to as possible—in other words, only when necessary.[1]

It is significant that at Gheel, in Belgium, where the free air, or family system, has been developed to its greatest extent, the use of mechanical restraint is found necessary as a part of this open air, abundance of exercise, rural life mode of treatment. A non-medical and quite unbiassed eye-witness of the facts tells us that certain patients wear "the *ceinture à bracelets mobiles*—a belt, to which the arms are attached by means of softly-padded bracelets, chained to it at a sufficient length to allow of the use, but not the abuse, of the hand. The belt is of leather, and the whole is so cleverly concealed under the clothes as to be scarcely perceptible."[2]

III. In the *United States of America.*—All its alienists, as a rule, including the *American Journal of Insanity* and its editors; along with Dr Wilkins, Commissioner of Insanity for California, and as such the author of an important official report to his Government published in 1872; Dr Ray, long of the Butler Hospital (Rhode Island), and author of the well-known *Medical Jurisprudence of Insanity;* Dr Kirkbride (Philadelphia); Dr Pliny Earle (Northampton, Mass.); Dr Kellogg (Ward Island, N.Y.); Dr Ranney (Madison, Wis.); Dr Curwen (Harrisburg, Pa.)

Dr Earle, when visiting Perth, in June 1871, assured me that not a single American asylum superintendent either professes or practises Conollyism [or did so at that time]; not one believes that mechanical restraint is not sometimes necessary; and not one does not himself apply it in fitting cases. And, as one of the results of visits paid by him to no less than 83 asylums in different parts of the world between 1837 and 1871, the same authority declares that Conollyism "has been adopted nowhere to my knowledge out of the British Islands."[3]

IV. *In Australia and other British Colonies.*—As a rule, all their alienists, who adopt the views of American, rather than of English, authorities on insanity and its treatment. Such men are included as Dr Manning, now of Sydney, New South Wales, the author of the fullest and best report in the English language on the asylums of Europe and America,—a report that was presented to the Government of New South Wales in 1868; Dr Workman, formerly of Toronto (Canada); Dr Cantor, Calcutta.

The authorities whose names have been specified do not represent a tithe of those who either themselves use mechanical restraint or approve of its use in suitable cases. For several years I kept a note of all the asylums whose physicians employed various means of confining the hands or arms, feet or legs. But lately I have found the numbers so great and the practice so common that I have discontinued this species of note-taking, from the scores of asylum reports that pass through my hands annually. It would have been easy then to have given a list of the asylums—say in England alone—in which mechanical restraint in some form is now used. But it is unnecessary, because a perusal of the annual blue books of the English Lunacy Board will at any time suffice to indicate the kind and amount of this form of restraint that is employed. That *instruments of restraint are in demand in England* is shown by the fact that they are advertised in the price-lists of surgical-instrument makers.[1]

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[1] Reprint, from the *Psychological Journal* in 1858, of a Paper on "Insanity and Lunatic Asylums in Norway," pp. 41, 42.

[2] *Gheel: the City of the Simple* (1869), p. 103.

[3] 16*th Report* (1871) of the State Lunatic Hospital at Northampton, Mass., p. 31.

As showing how little connexion there may be between the advocacy of the use of mechanical restraint and its actual employment, I may point to my own practice at Perth, and I do so because my position in reference to the restraint question has been both misunderstood and misrepresented, and in all probability will be so again: for

> "*Nihil est quin male narrando possit depravari.*"

In 1854 I entered on the management of an asylum that was opened in 1827 fully provided with all the then fashionable appliances for the imposition of mechanical restraint,—to wit, stalls (fixed), chairs (movable), bedsteads (fixed and movable), strait-waistcoats, manacles, strong leather gloves and belts, and so forth. All these I found in 1854, some of them in constant use, especially at night. I found it also hopeless to introduce a new order of things without a new staff of attendants, the consequence of which conviction being that I ventured upon an experiment made neither by Conolly nor Gardiner Hill. I changed my entire staff of attendants and servants in a single day. I had previously gradually eliminated the use of all the appliances referred to, and in fact had got them out of the house; while with my new staff I adopted, in its entirety, what Conolly and Hill describe as the "New" or "Non-Restraint system." And I have never, since I became physician to the Murray Royal Institution, used any of the forms of mechanical restraint so much objected to by Conolly and his disciples, unless experimentally, in order, for instance, to determine some means of confining the hands in certain cases, while allowing, on the one hand, movement of the arms and exercise in the open air, and on the other, that would not involve any repulsive prison-like peculiarity of dress. This, however, is not the place to detail the experiments in question or their results; nor is this the fitting time to submit a history of the circumstances under which at Perth a "total abolition" of mechanical restraint was carried out much more swiftly than either at Hanwell or Lincoln.

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[1] Thus the last *Price-Current* of Messrs Ferris, Boorne, Townsend, and Boucher, of London (1877), quotes (p. 40): "Lunatic Belts," "Straps," and "Strait Waistcoats," both for day and night use.

Dr Bucknill has recently drawn attention to the fact that the *practice* of Dr Kirkbride of Philadelphia is better than his *profession:* in other words, that while, with other American alienists, he claims the right to impose instrumental restraint where and when he deems it necessary or desirable, he does not actually apply it in cases in which his English critic himself thought it would have been imposed. Though Dr Kirkbride is avowedly "not a non-restraint man," Dr Bucknill cannot but call him his "most kind-hearted and enlightened friend."[1] As showing at once the uncharitableness and injustice of the charges made by Conolly and his disciples as to the inhumanity necessarily involved in the slightest use of mechanical restraint, or as to the negligence of duty to which it must give rise, it is desirable here to cite the further voluntary statements of Dr Bucknill, that at Boston it was imposed "by one of the kindest of men" (p. 29); at Washington by a man of high repute in a Government, well-inspected institution (p. 39); and at Utica by the conductors of the *American Journal of Insanity*, and the most scientific alienists in the United States (p. 41).

Again, Dr Stolz, on succeeding to the charge of the asylum at Hall in the Tyrol, gradually diminished the number of cases in which mechanical restraint was applied, until for twenty-one months consecutively he did not use it in a single instance. And yet he is not an abolitionist or extremist; merely a physician, who like all sensible, temperate alienists, does not apply it where it is not really called for. He tells us himself,—"My endeavour has been to reduce mechanical restraint to the *minimum* of what is justifiable, and I have most earnestly devoted myself to it."[2]

In short, the great difference between Conolly and his disciples, on the one hand, and men of moderate, temperate views, on the other, as regards their practice, is simply this: that the former abolish the name, but retain the thing—*restraint*—while the latter retain the name, but virtually abolish the thing. In other words, the majority of alienists, in their practice, illustrate the proverb, that some, certainly not all, "Men are usually better than their creeds." Conolly and his school dub some form of treatment, "restraint," and forthwith, because it is "restraint," refuse to employ it. But call it anything else—hydropathic treatment, for instance—and it is at once employed, though it may involve what other people call and regard as mechanical restraint of the most thorough and objectionable kind. False terminology and false sentiment, with the merest quibbling upon words, have all been involved in the absurdities, inconsistencies, nay cruelties, of Conollyism.

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[1] *American Journal of Insanity* for July 1876, p. 23, quoting from "Notes on Asylums for the Insane in America," published in the *Lancet* in March 1876, and following months.

[2] *Journal of Mental Science*, vol. xv. p. 620.

VI.—Opinions of Foreigners on Conollyism.

In consequence of the parade that was for a long series of years made—mostly in the *Journal of Mental Science*—of the great superiority of *English* asylums over those of all other countries, a superiority ascribed to their alleged universal adoption of the "non-restraint system," many of the most eminent alienists of those other countries that were taunted with their defects have from time to time visited England and its supposed model asylums, specially in order to an examination for themselves of the results of the "entire disuse" or "total abolition" of mechanical restraint. It is not surprising that some of these authorities—notably the sagacious Germans—patient and persevering in their investigation of facts, speedily perceived the *difference between profession and practice* in Conollyism, and with a feeling of disappointment and disgust, that led them to denounce the "system" in question as an "English swindle." Such was the impression produced upon Dr Neumann of Breslau, author of a *Lehrbuch der Psychiatrie*,[1] and Dr Erlenmeyer, editor of the *Correspondenz-Blatt der Deutschen Gesellschaft für Psychiatrie*.[2] And such is the general verdict of alienists throughout the civilized world,[3] for I have met with the opinion, expressed orally or in print, in a great variety of ways, in several quarters of the globe.

Other critics of *English* asylums, and of Conollyism therein, deplore the sacrifice of the patients to a mere erroneous *sentiment* or *dogma;* or they assert that, in some form or other, mechanical restraint is really employed, whatever may be the asseverations to the contrary, and I have known assertions to the contrary made by the heads of asylums where the use of gloves or other forms of mechanical or instrumental restraint in these very asylums was nevertheless notorious. Dr Kellog, of the New York State Asylum on Ward's Island, declaims against the sacrifice of advantages to the "worship of an *idea*, and in obedience . . . . . to a maudlin public *sentiment* and reverence for a great name. . . . . . People in England are too sensible to worship for ever an idea."[4] Dr Workman, formerly of the Toronto Asylum (Canada), speaking of a visit by him to *English* asylums in 1859, says, "It was my impression that there was a strong undercurrent of recusancy that time would bring to the surface"—recusancy or reaction that is against the dominant Conollyism of the day. The president of the American Association of Asylum Superintendents in 1874, reported to that special medical parliament:—"I was gratified when visiting the institutions *in England* . . . . . to find that almost universally, certainly in four-fifths of the cases, the superintendents expressed themselves *in favour of mechanical restraint;* and, singularly enough, the superintendents lay the blame of non-restraint upon the Commissioners in Lunacy, and the Commissioners in Lunacy throw it back upon the superintendents. They say the superintendents are emulous, one of another, to report the smallest number of restraints during the year. Certainly, in my presence and that of an American medical friend accompanying me, almost without exception they expressed their preference for mechanical restraint, and hoped they would have it established there. From an experience of over twenty years, and from a careful, and I hope by no means superficial, study of this question, I firmly believe that, in the future, the practice of our best *American* asylums now will become the governing rule of Christendom."[1] The same sort of confidential communications have been made to myself over and over again by *English* asylum superintendents, in whom it is surely a pitiable exhibition of moral cowardice not to carry out, or act upon, in their practice, opinions which they so decidedly profess. The difference between their profession and their practice is the very opposite of that which characterizes Conolly and his disciples; for professing that mechanical restraint is sometimes necessary, they nevertheless do not apply it, preferring, as we have already seen, to let a patient gouge out his eyes; while Conolly and his school, professing to find it never useful, never justifiable, yet employ either itself or some more objectionable substitute!

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[1] According to the *Journal of Mental Science*, vol. ix. p. 145.

[2] *Ibid.*, p. 298.

[3] The opinion both of American, French, and German writers is quoted in an article on "Non-restraint in Lunacy," in the *British Medical Journal* (vol. ii. for 1873, p. 612). The verdict there given is that non-restraint is a "sentimental humbug."

[4] Article on "Restraint and Non-restraint" in *Medical Times*, vol. i. for 1869, p. 669. He also points out the slavish subservience to Lunacy Commissioners or to public opinion, which he thinks are characteristic of English alienists, in a paper in the *American Journal of Insanity*, for January 1869, quoted in the *Journal of Mental Science*, vol. xv. p. 141, and vol. xvii. p. 138.

Dr Marcé, physician to the Bicêtre, Paris, and author of a *Traité pratique des maladies mentales* (1862), thus writes:—"Must we then conclude that the strait-waistcoat and *all* other means of restraint should be entirely rejected? Certainly not; and yet it is to this extravagant conclusion that certain English physicians have come, who, moved by an excessive sentiment of respect for human liberty,[2] have raised the doctrine into a system." Upon which the *Journal of Mental Science*, or its editor, comments—"If a single patient ever does suffer from the non-employment of mechanical restraint he suffers for a glorious principle."[3]

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[1] *Journal of Mental Science*, vol. xxii. p. 147.

[2] A "sentiment" that prevents our giving due protection against themselves to insane drunkards; that leads to the breeding of idiocy, insanity, and a series of disastrous nervous disorders; that gives rise, in short, to the artificial manufacture of insanity instead of its prevention and repression.

[3] Vol. ix. p. 217.

Dr Stolz, of Hall, in the Tyrol, declares that "if the English have *non-restraint* inscribed above their doors, it is, if taken literally, an *untruth*, to which the walls on which it appears amply testify. . . . . Non-restraint is a kind of confession of faith, whose adherents publicly *profess* to devote themselves to certain modes of treatment;" but he thinks "the *practice* has been led by a faulty *theory* into *error*." [1]

Dr Curwen, secretary of the Association of American Asylum Superintendents, speaking of asylum attendants, affirms that "neither the patience of Job, nor the meekness of Moses, nor the love of John, are inherent qualities in those who must perform such offices" (the application of manual force when it is needed); "nor, it must be frankly stated, if a judgment can be formed from the tone of their writings, in those who so urgently demand the abolition of all mechanical restraint."[2]

VII.—General Conclusions.

The materials collected during the last twenty years as a contribution towards the literature of the restraint controversy are sufficiently abundant to require a treatise, volume, pamphlet, rather than a magazine article for their embodiment, arrangement, and discussion. All that has been attempted in the present paper has been to give a *résumé* of general conclusions or results, leaving all details, such as references, quotations, explanations, and commentaries, to be supplied from time to time, as occasion may require, in this or other medical journals.

Among the general results, then, of my own observation, correspondence, and reading are, *inter alia*, these:—

1. The use of mechanical restraint is advocated by at least 90 per cent. of physicians engaged in lunacy practice throughout the world.

2. The minority is not greater than is that of the general population who believe in and propagate such absurdities as spiritualism.

3. But the *advocacy* of mechanical restraint is one thing, its *use* another. For there are many strenuous advocates of its use, who, nevertheless, in practice seldom or never have, or have had, occasion to use it.

4. What such advocates contend for is perfect freedom both of opinion and action—unfettered liberty to employ or apply what they consider the *best thing for a given patient under given circumstances*, without reference to the current creeds of other people—to the tyranny of a false public opinion, or of a spurious public philanthropy, or to the amiable crotchets of mischievous enthusiasts.

5. The use of mechanical restraint is advocated, or it is itself em-

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[1] *Journal of Mental Science*, vol. xv. p. 619.

[2] *Report of the State Lunatic Hospital at Harrisburg*, Pennsylvania, 1876, p. 19.

ployed, by the most eminent specialists of the day—by men as conspicuous for their advanced humanity or philanthropy as for their general culture and professional ability.

6. Mechanical restraint forms an occasional feature of treatment in those asylums which have the noblest history and the highest reputation.

7. In other words, it constitutes an essential feature in the most modern, most enlightened, most humane treatment of the insane; while—

8. It is itself unquestionably the most humane mode of treatment that can be adopted in certain exceptional circumstances.

9. One proof of this is to be found in the fact that maniacal patients themselves are sometimes the first to recognise its benefits by *requesting* its application, just as they voluntarily, in similar conditions, betake themselves to *seclusion*.[1]

10. The *substitutes* that have been introduced by those whose extreme views have led them to renounce everything savouring of mechanical restraint are productive of much more serious and numerous evils.

11. So much so that Conollyism has done an amount of mischief to the insane, and to society through them, compared with which all the evils of the old restraint, in so far as those evils were at all real, are a bagatelle.

VIII.—BIBLIOGRAPHICAL REFERENCES.

I. Annual Reports of the Commissioners in Lunacy for England, Scotland, and Ireland,[2] particularly those for England,[3] including the Report of a Special Lunacy Commission for Scotland in 1857.

II. Special Reports of the Lunacy Commissioners of other countries, especially that of Dr Manning (Australia).[4]

III. Text-Books on Psychological Medicine:—

1. Bucknill and Tuke's *Manual of Psychological Medicine*," 3d edition (1874),[5] p. 683.

2. Blandford's *Insanity and its Treatment.*

3. Professor Aitken's *Science and Practice of Medicine*, 4th edition (1866), vol. ii. p. 443.

IV. Medical Reports of the Murray Royal Institution; *e.g.* 19th, (1846) pp. 6–9; 22d (1849), p. 8; 32d (1859), p. 13; 37th (1864), p. 12; and 39th (1868), pp. 15, 16.

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[1] Thus George III., who had had ample experience of the strait-jacket, remarked regarding it after he recovered, " Perhaps it is the best friend I ever had in my life."

[2] Especially their Eighth Report, p. 61, where they cite the practice of all the Irish asylums.

[3] *E.g.* that for 1844.

[4] Section on " Restraint and Seclusion," p. 116.

[5] Section on " Mechanical Restraint and Seclusion."

V. The following papers by the author:—

1. "Temporary Insanity:" *Edinburgh Medical Journal*, November 1865, pp. 447 to 452.

2. "Mollities Ossium in relation to Rib-fracture among the Insane:" *Edinburgh Medical Journal*, November 1870, pp. 415, and 421 to 423.

3. "Typhomania:" *Edinburgh Medical Journal*, October 1868, p. 333.

ARTICLE IX.—*The Sewage Question.* By ANDREW FERGUS, M.D., Glasgow.

(*Continued from page* 993.)

HAVING thus considered the composition of sewage, let us now turn our attention to the mode in which by drainage it is conveyed away.

The primary objects of drainage being to remove surface water, and dry the subsoil, that system must be the most perfect which will both receive and freely carry off the surface water, while, at the same time, the joints of the system must be so formed that they will allow the gradual drainage into the sewers of the water lodged in the subsoil. If the sewers were kept only for the rainfall, no injury could happen from them to the community; but from mistaken notions, and by a bad habit, which has perhaps grown upon us insensibly, we pour all sorts of refuse into the sewers, and they again pass them on to our rivers. If we are ever to solve the problem of the sewage question, it will be by a return to nature's own laws, namely, pass the rainfall as speedily as possible into the water courses and rivers, and apply the excreta to the soil.

But as the public mind is not as yet educated up to this point, I shall now consider how our present system can be best carried out with the smallest amount of risk to the community. The conveyance of sewage naturally divides itself into two heads, viz., domestic and public, or personal and general. By the terms domestic and personal, I mean the various ways by which it is conveyed through our houses till it enters the main drain, and this has not received the attention it deserves from architects and builders, and the public at large. Sufficient vigilance is never exercised over the parties entrusted with the laying of these internal fittings of houses, and as a result their imperfections are a continual source of annoyance and nuisance, not unfrequently of disease and death. About twenty years ago I first detected perforated soil-pipes. At that time I merely considered them a nuisance because offensive, but did not connect them with disease, neither did I know how these perforations were produced.

In the first pipes inspected, as the perforations were on the upper side, I imagined that pieces of lime might have dropped down on the pipes and eaten their way through, but was obliged to abandon this opinion on discovering that the perforations were from *within*. I also found that they were generally on the upper surface of the pipe, and that, therefore, the destruction could not be caused by fluid conveyed through it. I also observed that the pipe usually affected in this manner was the cross one leading from the closet to the main descending soil-pipe; and that if there was a bend or arch in the pipe, the upper surface of the bend or arch would become perforated. Another element to be taken into consideration is, that these perforations are most frequently found in the upper flats of houses, and occasionally in the sides of the descending soil-pipes, where fluid cannot rest.

The question now arises, how is this destruction of good, well-made lead pipes effected?

If we remember the position of this destructive action in the pipes, and take into consideration the results of chemical analysis,[1] as well as the increased rapidity with which this action takes place in pipes that are not ventilated, we believe ourselves justified in coming to the conclusion that these results are owing to the action of sewer gas. Careful inspection always shows that the destructive action is from within, and that in some places the pipes are more or less corroded, even where the action has not gone the length of complete perforation. (Plate, fig. 5.) Of course, my discovery of such pipes in houses has only been where I have been in professional attendance, and where the diseases were of such a type as are known to be produced by breathing the results of the decomposition of excreta. The diseases alluded to are typhoid fever, diphtheria, scarlet fever, diarrhœa, etc.; and in one or two cases I have had to order the removal of families who were suffering from ill health by this poison, without exhibiting symptoms of any well-defined disease.

As the investigation of the causation of disease is carried out, I believe that the list already given of those diseases produced or conveyed by sewage or sewer gas will be increased. In two cases

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[1] All lead soil-pipes that have been some time in use are coated (above the water line in cross pipes, and all over the sides of descending pipes) with a grayish substance that can be easily scraped off. We give four analyses of this substance, removed from the inner surface of decayed pipes.

	1.'s	2.'s	3.'s	4.'s
Carbonate of lead............	2·70	86·00	91·00	92·90
Carbonate of lime............	80·63	2·50	2·10	2·90
Water..........................	0·45	1·20	1·00	0·50
Lead insoluble as oxide......	...	3·50	1·50	1·45
Silica..........................	1·85	2·80	1·00	1·60
Organic matter................	14·87	4·00	3·40	0·65
	100·00	100·00	100·00	100·00

The analysis number one probably indicates by the carbonate of lime that chloride of lime had recently been used to destroy the effluvia from the already perforated pipes.

of phthisis in people long past middle life, no other cause could be assigned. The family history was good, the mode of living correct, and the general health satisfactory up to the time of the soil-pipes becoming corroded. (Fig. 3.) Again, several years ago, I was asked to visit the child of the superintendent of a large public institution, and at once suspected typhoid fever to be the ailment. This proved to be the case, and I was told, moreover, that it had been twice already in this gentleman's family; and that the year before they had all suffered from diphtheria.

On making inquiry as to the drainage, water supply, etc., I was told that the water was Loch Katrine, and so beyond suspicion. The master of works for the institution was a most intelligent man, and had paid special attention to the drainage. He had soil-pipes with traps of extra depth,—indeed the deepest we have seen,—and it was difficult to account for the manner of infection, the pipes being pronounced free from any defect. In a short time, however, another child was taken ill, as well as several of the officials of the institution. In passing a particular spot, however, in the superintendent's house, I perceived a faint odour of sewer gas; on mentioning this to him he most promptly had the pipes uncovered, when perforations were at once discovered in the vertical soil-pipe.

This led to a complete overhaul of all the pipes in the house, and the removal of those that were defective, and since then I have not heard of a single case of typhoid or diphtheria in the establishment. Plumbers do not readily detect this defective state of pipes, as they look for a liquid leakage. Some time ago, in visiting a case of typhoid, I made inquiries from the mother of my patient as to the state of the closet and pipes. She replied, "Oh! doctor, you are wrong this time; all these things were renewed only two months ago." Of course I was extinguished; but still ventured to inquire what might be the cause of a very perceptible, and by no means agreeable odour. A dead rat was suggested as its possible origin. However, as it was no trifling matter, I requested that the plumber might be sent for, and that he should be told to examine the soil-pipe and cross-pipe, one of which he would probably find perforated. At my next visit, the lady told me that the plumber had been very much astonished to find the pipe exactly in the state predicted. (Plate, Fig. 1.)

I have often been told that this state of pipes must be peculiar to Glasgow, and must be produced by some chemicals getting into the sewers; but I have made many inquiries, and find the same thing existing in every water-closet town in reference to which I have had information. The worst specimen in the plate is from Edinburgh (Fig. 6), where there are few chemical works, and I have also received very bad specimens from London. Lead has generally been used as the material for soil-pipes, and as we have seen how capable it is of corrosion, it becomes a very important sanitary question, to inquire how long a good lead soil-pipe will last. I have been studying this question for many years, and it is now about ten since I first exhibited decayed pipes in public, yet I would not dogmatize on the subject, but rather give approximations, and would remark, that the time will vary under various circumstances according to the strength and rapidity of flow of the sewage, as well as the original thickness of the pipe. But after allowing for this, we must broadly distinguish between those soil-pipes which are carried up to the roof of the house and left open to the external air, and those which are closed up. In regard to the former, the duration is commonly from twenty-one to twenty-three years, the extremes of variation being from eighteen to thirty or even more years, while the duration of the latter ranges between a minimum of eight to a maximum of twenty years. The practical sanitary conclusion which it concerns us all to keep in mind is, that any house, no matter how carefully or well built, may become unhealthy from this source, and that when cases of typhoid fever, diphtheria, etc., occur, the pipes should be thoroughly inspected, especially their upper surface, and the whole of the soil-pipe uncovered. We must strongly insist on this, as in many cases the plumbers have declared pipes to be all right, which on examination turned out to be very defective. I have insisted on such examination for years back, wherever cases of typhoid or diphtheria have been under my care, and in most instances where I could get it carefully carried out, have detected these perforated pipes.

I was first led to connect this state of soil-pipes with disease by the fact that, as regards water-supply, Glasgow should not be exposed to diseases resulting from excremental pollution; and if we have these diseases, we must attribute them to some other source.

Another way in which sewer gas may act injuriously is by its passing up the waste-pipe of the cistern, and becoming absorbed by the water. In houses that have been shut up for a few months, this should be guarded against by running off all the water, and clearing out the mud at the bottom of the cistern, before the houses are re-inhabited. I also propose to insert into the waste-pipe a long wire cage with a circular hood, and to keep this filled with sea-weed, or other charcoal, which should be replenished from time to time. (Plate, Fig. 4.) Of course it would be much better if all water used for cooking and drinking were drawn direct from the main.

It would prolong the duration of the pipe, and be an important sanitary improvement, if the soil-pipes were in every case carried up to the roof, and left quite open to the air. The expense of this would be more than compensated to the landlords by the greatly increased duration of the lead pipes, supposing this metal still to continue in use. Pipes of iron, however, well covered with protecting composition, would be preferable to lead, on account of the liability of the latter, as we have seen, to decay.

In all the cases where I have detected decayed pipes, I found them trapped between the house and the sewer; but I have nevertheless come to the conclusion that the destructive action was from gas, and shall shortly state my reasons for doing so. The perforations are always above the water-line in cross-pipes, and we have never known leakage leading to the discovery of decayed pipes. Nothing but a gas can act on the sides of upright pipes (Fig. 7), which we often find perforated in every part of their circumference.

The chemical composition of the inner coating of the pipes points to gas as its cause, and the fact that pipes open at the top to the external air last much longer than pipes that are closed, is another and very strong proof that the destructive action must be caused by a gas.

The question naturally arises, How can gas, in sufficient quantity to destroy lead pipes, get to these pipes on the *house* side of well-trapped drains? and where is it generated? It *is* possible that tension in a sewer may in some cases overcome the resistance of a trap, and cause for a time an eruption of sewer gas; but this can only be occasional,—a mere accident, occurring at irregular intervals, and these cannot be taken as a permanent cause of the destruction of these pipes. Another question here presents itself, Can the gas be generated in the trap itself? At first sight this idea did not seem of much importance; but investigation and experience have shown that in all water-traps and cesspools there is a generation of a certain amount of gas on the house side of the trap, quite independent of any from the sewers. I have opened and carefully examined a considerable number of traps of various constructions, and have always found a large quantity of fæces floating on the surface of the water on the house side of them.[1] It has not been generally remembered that fæces float, and that as they decompose, the little bells of gas assist in their doing so; and, therefore, in all traps and cesspools on the house side you have this decomposing mass, which can only escape by a slow process of decomposition and disintegration. I by no means, however, believe this to be the chief source of sewer gas. I was the first to point out, some four years ago, that a much more important factor in its admission into house drains is the diffusion of gases through water; and the result of much study and many experiments has only been to make me adhere tenaciously to this belief. Happily, this was one of those phenomena capable of demonstration, and this was carried out as follows:—

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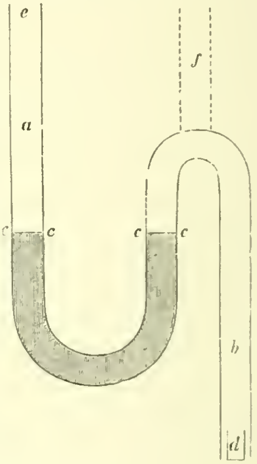
[1] Two years ago I was requested to inspect a range of good, recently-erected houses, where typhoid had prevailed. We found the drains and rain water-pipes from the houses passing into a large cesspool at a higher level than the exit pipe into the drain, the outlet being several inches under water.

The surface of the water in the cesspool was covered with floating fæces in a state of active decomposition. On its being stirred, sewer-gas was given off freely. I desired that all the baths, sinks, and fixed basins in the houses should be fully turned on; but not one particle of fæces escaped, the whole mass only kept swirling round and round, the water escaping from below. In order to convince some parties who were sceptical, the process of flushing was repeated day after day, and the result was always the same. Let us inquire what became of the gas so generated. The cesspool was covered with an impervious stone-lid, hermetically closed, so that none could escape into the open air, and it could not pass into the sewer on account of the large body of water which interposed. It must of necessity have been driven back either into the houses, or up the rain water-pipe. Typhoid had been introduced by milk; but I think it was clearly proved that it had spread by the decomposition of typhoid stools in this laboratory for the manufacture of sewer-gas.

A bent tube, such as the annexed, was used, *a* representing house side of trap or soil-pipe; *b*, sewer side of same pipe; *c c*, *c c*, level of water in trap; *d*, small vessel or test-tube, from which the gas was evolved; *e*, position of the test employed; *f*, position of tube subsequently added to ventilate the trap. In the first experiment, a small glass tube was placed at *d*, containing solution of ammonia; in fifteen minutes it passed up the tube, through the water, and discharged the acid, with which litmus paper had been reddened, suspended at *e*. In another experiment, instead of litmus paper at *e*, a small test-tube containing a little Nessler solution was introduced; in half an hour the reaction of ammonia was very distinctly visible. The tube was left suspended by metal wire all night, and in the morning the wire was eaten through, and the test-tube had fallen to the bottom.



An objection was taken to these experiments, because ammonia is lighter than air, and has a strong affinity for water. Other gases heavier than air were then tried; the results were much the same, as will be seen from the table now given:—

Gas.	Sp. Gr.	Source.	Test.	Time for Reaction to show.
Ammonia,	·50	Solution,	Litmus,	15 minutes.
Do.	·50	Do.	Nessler,	30 minutes. Eat through a small wire in less than 24 hours.
Sulphurous acid,	2·25	Do.	Litmus,	1 hour.
Sulphuretted hydrogen,	1·25	Do.	Lead pipes,	3 to 4 hours.
Chlorine,	2·50	Do.	Iodide of starch paper,	4 hours.
Do.	2·50	Do.	Litmus water in trap,	Began to show in a few minutes. In half an hour the whole was bleached.
Carbonic acid,	1·50	Do.	Generated lime water in trap,	1½ hours.
Do.	1·50	Do.	Litmus suspended at *e*,	3 hours.

Against these experiments it was urged that the result would be different if the trap were ventilated. To meet this objection, they were repeated with the trap, somewhat modified by the introduction of a ventilating pipe, which is represented by the dotted lines in the figure. The results were much the same, the reaction only a little longer in showing itself. These experiments were shown at the meeting of the Social Science Congress at Glasgow in 1874. It is necessary to explain that the gas was not given off under pressure, neither was it in any way confined, the bottom of the model trap near *d* was left quite open, so that a heavy gas might have overflowed and sunk down into the open air. A curious fact should be noticed, viz., that when the experiments are repeated in a large trap, the light gases pass through by the upper side of the bend, giving off as it were processes into the fluid. The heavy gases sink down to the bottom of the bend, giving off similar processes. The gas is given off on the distal side of the trap before all the water there is saturated with it. It first covers the surface of the trap, and then sinks in a fine stream, the lighter gas on the upper side, the heavier sinking more deeply. As soon as it arrives on the other side of the trap, it diffuses itself over the surface, and begins to be discharged into the air, the water in the trap becoming by degrees thoroughly saturated.

The practical conclusions that suggest themselves are—1*st,* That lead should be used as little as possible. 2*d,* At every trap there should be two openings: one of these on the sewer side, to allow of the escape of gas into the open air, with or without an appliance for the disinfection of the same; the other on the house side, to allow all gas formed in the trap to escape. 3*d,* That the soil-pipe in its full diameter must be taken to the roof, and some mechanical means adopted to cause a free current of air to pass through it from the opening on the house side of the trap. 4*th,* That every water-closet trunk should be ventilated, so that all gas formed in it may be able to escape; and in no case should water from fixed basins or baths be discharged into the water-closet trunk, as, if hot, it would facilitate the decomposition going on there.

A very familiar illustration of the passage of gas through the water in the pan of the closet is, that if the under surface of the lid of the closet is painted white or cream colour, it soon gets discoloured in that portion over the opening by the action of the sulphuretted hydrogen on the lead of the paint. This fact led me to experiment on the possibility of demonstrating the passage of ammonia in the following way. I caused the pan of a water-closet to be frequently flushed and thoroughly cleaned from all organic matter. It was supplied in the usual way with fresh water free from organic matter, and I suspended, a little above the water, keeping the lid quite open, test-tubes containing a little Nessler solution. In two hours there were distinct indications of ammonia, clearly proving that the gas had passed through the water in the pan, and giving additional evidence of the fact already stated, that the fæces remain on the near side of all water-traps. These experiments were repeated several times, and the closet flushed each time; and if, as is generally supposed, flushing removes all solid and liquid matters, there would have been nothing left to decompose, and therefore no reaction.

Plumbers have told us that they often perceive the smell of gas on the near side of traps, but never could understand how it got there, until explained by my discovery of the passage of gases through water. I should like to say a few words as to the position of water-closets in dwelling-houses. In most of them it is most objectionable, and renders ventilation almost impossible.[1] It would be alike tedious and unnecessary to enumerate all the faulty positions in which water-closets are placed, every reader being familiar with them. I shall rather indicate in general terms what should be the leading features in such an arrangement.

It should be in a back projection built out from the house, with a clear space of not less than six feet from the back wall of the house to the door of the closet. This space should have windows on both sides, so as to secure free ventilation, and should have two doors, one communicating with the house, and the other opening into the closet. If such an arrangement was carried out, it would be almost impossible for sewer gas to find entrance into the house, or if any did so, where the doors were properly used, it would be dissipated by the free ventilation and abundant light in the space between the closet and the house.

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[1] In flatted houses this prevails to a large extent. In general, the closet has a small window opening into the common stair, and this window when open acts as a ventilator, it is true, but quite in the wrong direction, by the current of air from the stair passing through the closet *into*, not *out* of, the house.

DESCRIPTION OF PLATE.

FIG. 1.—Pipe removed from a house where there was typhoid. Two months before it was taken out, the water-closet had been renewed, but the plumber had failed to detect the state of this pipe.

FIG. 2.—A piece of lead soil-pipe slightly corroded, which entered an iron pipe below a water-closet. The iron pipe much perforated, allowing an escape of sewer gas, which produced fatal diphtheria.

FIG. 3.—Perforated soil-pipe from house where party died of phthisis.

FIG. 4.—Wire cage, filled with seaweed or other charcoal, to put into the overflow pipe of cistern.

FIG. 5.—Soil-pipe laid open, in which, so numerous were the perforations that very little of the lead required to be cut The sides *a a*, *a a*, are irregular owing to these perforations, and they may also be seen over the whitish part. The spaces between *a a* and *á á* are the parts of the soil-pipe covered with the whitish deposit spoken of in the paper. The part within the *b's* is the lower segment of the pipe over which the sewage flowed. It is quite sound—not in the least decayed or worn.

FIG. 6.—Pipe from Edinburgh. It will be observed that the solder has not decayed, *a*.

FIG. 7.—Main descending soil pipe, showing the perforations.

(*To be continued.*)

ES &c.

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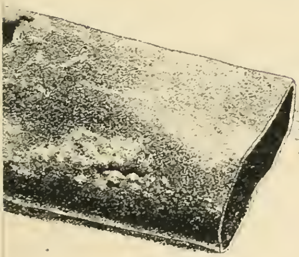

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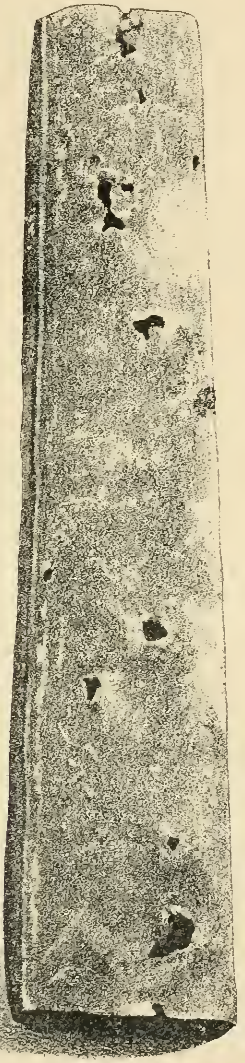
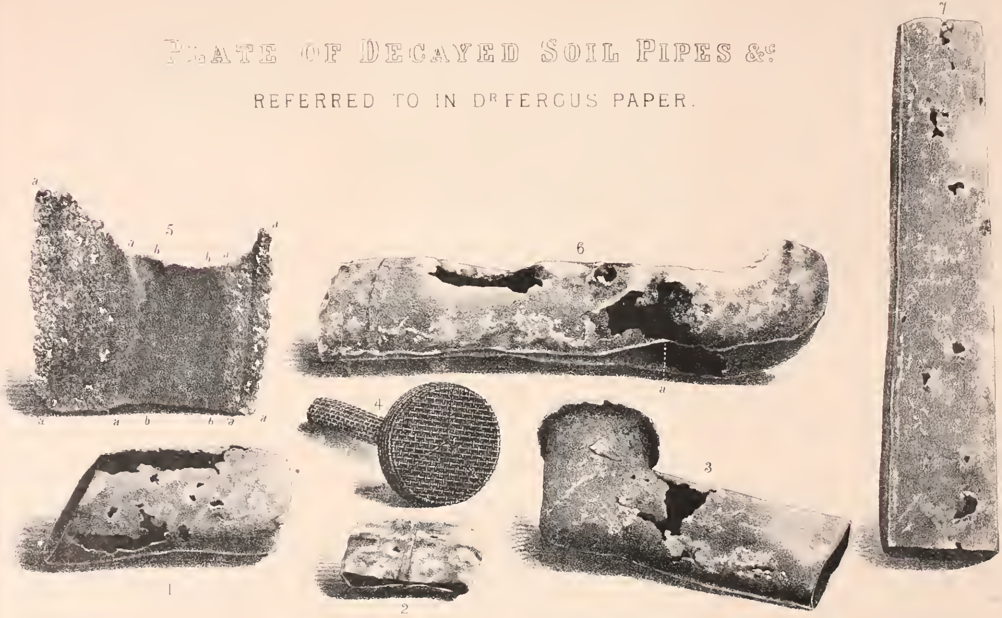


PLATE OF DECAYED SOIL PIPES &c.

REFERRED TO IN Dr FERGUS PAPER.



ILMOUR & C. [illegible] GLASGOW

Part Second.

REVIEWS.

Lehrbuch der Geburtshülfe für Aertze und Studirende. Von Dr Otto Spiegelberg. Zweite Hälfte : 1878.

Text-Book of Midwifery for Physicians and Students. By Dr Otto Spiegelberg. Part Second : 1878.

On the appearance of the first part of this work, we lately had an opportunity to express our admiration of its thoroughness in all scientific details, and our expectation that the practical part of the work, which was to appear in the second volume, would prove equally satisfactory. In this anticipation we have certainly not been disappointed. We have read it carefully from beginning to end, and can safely say that we have never seen a text-book of midwifery equally thorough and agreeable. It combines scientific accuracy and completeness with absence of prolixity in a most wonderful manner. Its admirable lists of the literature of the subject given with the various chapters, which is such a distinguishing feature in most German works, forms a record of, and easy reference to, almost everything of value that has been produced in this department up to the present date.

Our space will not permit us to enter upon a lengthy discussion of the various headings. Such of our readers as really wish that, we must refer to the book itself. But we shall point out, *calamo currente*, one or two of the distinguishing features of the work, to stimulate attention to it.

In regard to the large question of deformed pelvis, Spiegelberg contents himself with a full account of the three chief forms of this disease when the contraction is moderate in amount, viz., the generally contracted, the simple flat, and the flat rickety pelvis, explaining with great care their nature and causation, as also their effects on the mechanism of parturition, and the treatment appropriate to each, and gives less attention to the more uncommon forms than we are wont to find bestowed upon them, at least in German works. In this respect we think he has managed his subject in an admirable manner, for, however interesting in a scientific point of view cases of high pelvic distortion and of uncommon forms may be, those varieties that form in practice the great bulk of difficult labour are of overwhelming value. Besides, they form exactly those cases in which the greatest good or evil may result to his patients, according to the knowledge or the ignorance of the accoucheur. Again, it must be confessed that the profession in this country, as a whole, are lamentably ignorant of the entire subject of pelvic deformity, as is evinced by the extraordinary rules of practice promulgated, from Simpson downwards, in regard to turning, etc.

How few, even of the best class of British practitioners, in recording cases of difficulty, show that they recognise the absurdity and hopelessness of attempting to turn in generally contracted pelves; or that they have any correct notion of the special mechanism which the individual deformities develop during labour. With Spiegelberg's treatment of pelvic deformity we almost entirely agree. It may be shortly stated as forceps for equally contracted pelves, or if these fail, perforation; for flat pelves, turning, if the head does not enter the brim in consequence of malpresentation of it; but if the head has passed the inlet with a considerable portion of its circumference, and does not advance, forceps or craniotomy, according to circumstances.

Spiegelberg adheres to what we believe to be the true pathology of eclampsia, viz., the retention within the blood of the collective excrementitious matters which the kidneys ought to have separated. He wisely, we think, has departed from the theory, once entertained by him, of its frequent dependence upon the existence of carbonate of ammonia in the blood, stating that that can only with extreme rarity be the cause of eclampsia.

Our author recommends on all occasions immediate operation for bad perineal rupture, in which view, from considerable experience, we very cordially agree with him. To delay the operation is only to court difficulty both for patient and doctor.

Spiegelberg maintains puerperal fever to be simply a wound fever or septicæmia on all occasions, and to be in no sense specific. The septic poison may arise in various ways, and seems to be intimately related to the round bacteria. At least those organisms are invariably found in the infected fluids and tissues of well-marked cases. He thinks the septic virus much more frequently is introduced into the patient's open wounds by the accoucheur or nurse than it arises spontaneously within her tissues. Even in the latter cases the cause that started the septic poison must come from without.

He describes two leading forms of puerperal fever, under the name of lymphatic septicæmia and phlebitic septicæmia, according as the septic poison enters the organism through the lymphatic or the venous channels. These, again, may occur in an acute or a subacute form, and are usually more or less combined in the same individual. The pure form of each, however, may be distinguished and clearly differentiated. Spiegelberg's subacute phlebitic septicæmia is what we frequently see described as the pyæmic form of puerperal fever.

As to treatment—

The author insists on the most careful prophylaxis, by strict attention on the part of accoucheur and nurse to the most scrupulous cleanliness and the use of antiseptics, as also washing out the vagina and uterus, if there is any suspicion of putridity, with a 2-3 per cent. solution of carbolic acid.

He thinks the cool, and ultimately cold, bath the most effective antipyretic; and advises it in those cases wherein the temperature keeps continually high, provided there are no symptoms of collapse.

Quinine and alcohol are, according to him, the only effective antipyretic drugs. He disapproves of purgatives, and recommends leeches and opium in the accompanying peritonitis, if it assumes the sthenic form.

Spiegelberg's chapter on premature labour is astonishingly liberal, considering the strong views he is well known to have promulgated in reference to that operation.

As to the various other obstetrical operations there is little special to be said regarding them. They are well described, and the conditions under which they are each required are admirably given.

It is amusing to see, however, how national prejudice may influence a man's better judgment, even down to the smallest matters. Thus, our author, apparently most conscientiously, advocates the relatively dangerous and clumsy German forceps as being in every way superior to the English instruments. It will take a great deal of logic to convince the most impartial Briton of the correctness of such an opinion. But this is a very small matter.

Altogether, the work is one that cannot receive too high commendation. We advise every one who makes any pretensions to a knowledge of scientific midwifery to buy it, and read it, and re-read it. We should be very glad to see it appear in an English dress, as we should look upon it as a great boon to that large section of the obstetrical profession in these islands to whom the work is inaccessible in its native German.

Lehrbuch der Hebammenkunst. Fünfte Auflage. VON DR BERNHARD SIGMUND SCHULTZE.

Text-Book of the Midwife's Art. Fifth Edition. By Dr B. S. SCHULTZE. Leipzig: 1877.

WHEN a book reaches a fifth edition it is almost independent of the praise or blame of the critical press. It has proved its fitness for supplying a real want.

Of no book can this be more relevantly said than of the one before us. It contains a very good digest of the scientific and practical details of midwifery in a simple and easy, though very complete form, so as to be intelligible to any fairly educated earnest woman, who wants to attain proficiency as a midwife. The book teaches still some errors, such as the backward obliquity of the uterine axis, and the absurd treatment founded upon this idea by the author. We are also astonished to find the author still impervious to enlightenment in respect to the manner in which the cervix behaves during pregnancy, and as to the mode in which the placenta is separated (pp. 98, 99). But with all its faults the work possesses very many excellencies.

We have at present an agitation on foot in this country for the registration of midwives.

Would it not be serving that very valuable branch of the community better, were any ambitious young obstetrician, who had time and ability at command, to translate Schultze's book for the use of English midwives.

We humbly think, that putting such a sensible and judicious work within their reach would be worth more to them and their patients than many registers, and therefore we hope this may be done some day soon.

A Guide to Therapeutics. By ROBERT FARQUHARSON, M.D., F.R.C.P. Lond., Lecturer on Materia Medica at St Mary's Hospital Medical School, etc. London: Smith, Elder, and Co.: 1877.

THIS work will be read with interest alike by students and medical practitioners. It is wholly devoted to therapeutics as distinct from materia medica. On this account it can never form a text-book to students without the aid of some other text-book treating of materia medica properly so called. The tendency in the present day is to separate these two branches of medical education, and were this successfully accomplished in all our medical schools, an important step would be gained in the teaching of medical science. The plan of this book is thus stated by the author:—

> "Our object will be to balance, as far as possible, their physiological against their therapeutical action, arranging them in corresponding columns in diagrammatic form; and it will greatly assist this arrangement, as well as aid the memory of the student, if we adopt the following order in stating what we know respecting the properties of each drug:—
>
> "Take, first, its local or external action. Then its influence on the brain, and on the spinal and sympathetic system of nerves.
>
> "This will lead us up gradually to the effects on the heart and bloodvessels, whose functions are presided over, and ruled by, nervous influence.
>
> "The effects of the drug on respiration and temperature will next be considered, and we then proceed to the alterations of secretion in the following order:—urinary, intestinal, salivary, cutaneous, etc.
>
> "Then other actions which come under no heading, and which may be called specific.
>
> "Finally, we must consider the various modes of elimination from the body, the antidotes, contra-indications, and best modes of prescribing."

Such is the plan which Dr Farquharson has sketched out for himself, and he has adhered to it remarkably well. Both the physiological and the therapeutical actions of the various medicines are, as a rule, succinctly and correctly stated. After going over the various drugs of the British Pharmacopœia, the author introduces a chapter on "Non-officinal Preparations," including such substances as "actæa racemosa, eucalyptus globulus, gelsemium sempervirens, Goa powder, jaborandi, sanguinaria, salicin, salicylic acid, and trimethylamine,"—all of them substances of considerable importance.

Fully half a page is devoted to the consideration of the following important substances:—tea, coffee, guarana, coca. The author might with advantage have enlarged on the therapeutic value of these substances. Is Dr Farquharson quite sure that coca contains the alkaloid caffein?

The book contains a very good introductory chapter on the general principles of therapeutics. At page 7 Dr Farquharson surely falls into an inconsistency when he says:—

"Anthelmintics are always best given after as long a fast as possible, so that the parasites which they attack may not be shielded by food or mucus, and we find in practice that night, just before bedtime, is the most convenient period for their administration." If the anthelmintic was administered in the morning, would it not be given *after* a much longer fast than when given "before bedtime"?

We have much pleasure in highly recommending this *Guide* to all our readers.

Lectures on Surgical Anatomy. By JOHN CHIENE, M.D., F.R.C.S.E., F.R.S. Ed., Lecturer on Surgery, Edinburgh School of Medicine, etc. Illustrated by Thirty-one Plates, drawn on Stone, by CHARLES BERJEAU, from original Dissections. David Douglas: Edinburgh: 1878.

THE student of the day is a very fortunate man. He has a great deal done for him, and if he has much more to learn than his predecessors of a former generation, he certainly has much more chances of being taught — many active young teachers, each anxious to have many pupils, and each doing his best to make the road to learning smooth and pleasant.

This little book is one of many in late years which aim at guiding the student in seeing the bearings of his dissection, helping him to bring together the facts of anatomy and the principles of surgery.

Holden's *Surgical Landmarks* and Bellamy's *Surgical Anatomy* have done for the London student what, in emulation of them, is being done for the Edinburgh School.

As anatomical facts and relations do not vary, it is not very easy to be original in such a work, which really must vary from the other works only in method of stating the facts or in the dexterity of the draughtsman.

In this work, *external anatomy*, all that can be seen and felt without removing the skin, is made a special feature; but really the bulk of the observations made on this head are of the most trivial, obvious, and infantile character. Valuable when in clinical teaching in a hospital such observations are made, contrasting a healthy with an injured limb, they are rather stupid when read, and, in fact, must go in at one ear and out at the other of the students who listen to them, if administered in bulk and in a systematic way.

The bearing of anatomy on fractures and dislocation is given in a somewhat easy and desultory way, some of the more important fractures, as, for instance, those of lower end of humerus into elbow-joint, being omitted.

As one might expect, greater emphasis is laid on the power of muscles to displace the bones than is really the case; the fracturing force of the injury or its direction, as well as the weight of the limb, will receive more credit when the author's anatomical studies have been modified by clinical experience in hospital.

Of course, in a work of this kind no attempt is made at an exhaustive account of the literature of even important operations, but if historical details are introduced they should be correct, so far as they go. The "so-called flexion treatment of dislocation first recommended by the French surgeons, and lately prominently brought before the notice of the profession by the American surgeon, Bigelow of Boston" (p. 49), is a specimen of vagueness and inaccuracy.

Certain selected and favourite surgical operations are described. The operation once proposed and practised by Professor Lister for excision of the wrist is now nearly given up. Mr Syme's amputation at ankle is better described in Mr Syme's own words and in most manuals of operative surgery.

The author has a modification of Buchanan's staff for lithotomy —prefers the high operation of tracheotomy to the lower one—and in many other places expresses his own opinion with confidence and decision. The diagrams are very pretty, the veins as blue and the arteries as red as they usually are in diagrams; and there are many sections of limbs given at different places, by which the student may easily grind up answers to those questions (which they fear so much and which are so useless), as to what you see cut on a given section of a limb.

Nice paper, liberal margin, excellent typography, olive-green binding—in fact, the book is admirably published. It has done good to the author by helping him to systematize his knowledge for teaching purposes. It will do good to the student if it helps him to dissect the dead and observe the living. It will do him infinite harm if it encourages grinding up answers to expected questions on anatomy, by making absurd diagrams of sections and anastomoses.

The Morphology of the Skull. By H. K. PARKER, F.R.S., and G. T. BETTANY, M.A. Macmillan & Co.: London: 1877.

As a scientific investigator, Mr Parker has few equals in this country, and we rejoice to find that he has, in conjunction with Mr Bettany, the young and talented lecturer on Botany in Guy's Hospital, published so valuable a text-book as the *Morphology of the Skull.* On first taking up the book and glancing at the title-page, we were in hopes that the division of labour therein indicated would make itself manifest by rendering the work more readable than the previous writings of Mr Parker. In this we have been disappointed. It is indeed much to be regretted that so able an author should clothe facts so important, and the inferences which he draws from them, in a language so hard to follow.

The book is not one for the general reader. It deals with an exceedingly difficult subject, and one which is only of interest to the professed anatomist and embryologist. A very brief and general notice of the work will therefore suffice.

The first chapter is devoted to a preliminary sketch of general embryology, and having thus paved the way, the authors plunge into their special subject, and present to the reader a detailed account of the skull of the dog-fish and skate in its different stages of development. The skull of the salmon, axolotyl, frog, snake, fowl, and pig are all treated of in turn, and in a precisely similar manner, and thus we are led upwards by easy graduations from the simplest type to the highly complex and specialized mammalian skull. The great bulk of the book, therefore, is devoted to the detail of structural facts, and it is only in the last chapter that the authors review and draw their conclusions from these.

It is very interesting, indeed, to observe that in the cartilaginous skull the starting-point is the same, whatever its future history may be. In all cases, the primary elements of the cranium consist of four bars of cartilage developed at the base. Of these, the two anterior are called the trabeculæ, and are placed one on each side of the middle line so as to support the fore-brain. Approximated at their two extremities, they bulge outwards from each other between these points so as to resemble the ancient lyre. The two posterior pieces of cartilage are called the parachordals, and are placed one on each side of the notochord, which reaches as far forward as the trabeculæ. This may be said to form the foundation upon which the cranial superstructure is built.

In the few pages which the authors give to the discussion of the plan and segmentation of the cartilaginous skull they repudiate the theory propounded by Oken and Goethe that the skull is composed of a series of coalesced vertebræ. They do so for the very good reason that, in the course of their researches, they have perceived no indications of such a coalescence in the embryo, and because there is "no evidence of the past occurrence of such a transformation in ancient times."

The parachordals and the trabeculæ they regard as being similar in their nature, and belonging "to one and the same category," and they refuse to believe that the trabeculæ are either neural arches turned downwards, or visceral arches twisted upwards. With the trabeculæ they are to be looked upon "as representing, in a continuous form, the basal parts of a series of cartilages forming the neural arches of the vertebræ, flattened and widened." The lateral walls of the cranium, therefore, according to this view, are formed by the neural arches extending upwards and uniting more or less completely with each other.

Although the authors discuss briefly the bearing of the cranial nerves and the visceral arches in relation to the segmentation of the skull, they advance no definite view of their own on this point. It will not be amiss to quote a portion of one of the chief paragraphs dealing with this question:—"From the lower to the higher forms of vertebrates, we can discern a growing away from the primordial type of skull towards and into a loftier development. One feature or another of elevation is manifest in each great group, culminating in the birds, where a beautifully-finished and compact skull results from the union of elements of very varied primary significance; and in mammals, where a stability of skull-construction seems to be reached, the full development of a higher type superimposed on a lower one, and capable of indefinite variation. Here and there only, with various degrees of perfection, may the cranium be said, in a certain sense, to be made up of segments, enclosing a portion of the neural tube. There are three of these segments, the occipital, the parietal, the frontal; the ethmoidal and nasal tracts cannot be brought within the category of 'segments.' The squamosal and periotic bones are not explicable by any simple segmental theory of the skull. . . . . If, then, it be granted that in mammalia we may perceive with some distinctness three cranial segments, it does not follow that they constitute three cranial vertebræ."

In a book so full of details which are so difficult to follow, one would naturally expect that aid would be given to the reader by means of numerous illustrations. Such is not the case, however; the drawings are few and far between, and it is much to be deplored that the usefulness of the work is thereby very greatly diminished. Still, taking it all in all, it must be regarded as one of the most important anatomical works which has appeared during the year 1877.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S. *With an Introduction on General Anatomy and Development.* By T. HOLMES, M.A. Eighth Edition. Longmans, Green, and Co.: London: 1877.

WE are glad to announce the appearance of an eighth edition of this excellent text-book of descriptive anatomy. For more than twenty years it has maintained a high popularity amongst both students and practitioners.

Very little alteration has been made on this last edition. It is only in the sections upon Microscopical Anatomy and on Development that any change can be detected. These sections have been much extended and improved, and a few new illustrations have been added. It is with regret that we observe that the engravings, which have hitherto been one of the chief attractions of the book, are becoming very much the worse of wear.

An Atlas of Human Anatomy, accompanied by an Explanatory Text. By R. J. GODLEE, F.R.C.S. J. and A. Churchill: London: 1877.

WE are sorry that we cannot say much in praise of this Atlas of Human Anatomy. We have before us the second part, and viewed as a work of art we can merely state that it is in all respects original.

The most casual glance over the plates is sufficient to startle one at their unusual manner of treatment. What is technically called "cross-hatching," has been in some instances taken up by Mr Godlee in a very vigorous and literal sense. In Plate vi. we find gentlemen with heads divided into a number of minute but clearly-defined squares and rectangles. This method of shading Mr Godlee must surely know is altogether inadmissible in "drawing from the round." The ears of the same objects are very peculiar appendages. The right auricle in both instances, from its unnatural position, leads the observer to conclude that it has on some previous occasion been cut off, and then repentantly stuck on again about an inch and a half too far back.

The coarsely fasciculated appearance which is given to the muscles is most offensive to the eye of an anatomist. The muscles of head and neck are represented as being composed of fasciculi even larger and more strongly marked than those of the gluteus maximus. The nerves are stiff and unnatural, and the only redeeming point is the manner in which he has dealt with the arteries. It must be allowed that he has portrayed the latter with some faithfulness. Possibly Mr Godlee has fallen into some of these errors from a desire to place the dissections before the student in a diagrammatic manner, but this can hardly be looked upon as an excuse for his neglecting the first elements of drawing. Anatomical plates, to be useful, must represent in some degree the objects as they are actually seen, instead of showing them as they never have been and never will be seen by the dissector. Mr Godlee states in his "advertisement" that one of his objects, in bringing before the profession his Series of Plates, is to illustrate "dissections not usually seen in the dissecting-rooms." This being the case, certain of the foregoing remarks may be considered superfluous.

Accompanying the Atlas is a very full explanatory text. So far as we have seen this, it seems to be carefully drawn up. It certainly gives evidence of an extensive acquaintance with anatomical literature.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LVII.—MEETING VI.

Wednesday, 17th April 1878.—Dr G. W. BALFOUR, *and afterwards* Dr ARGYLL ROBERTSON, *Vice-President, in the Chair.*

I. Mrs G. was introduced to the Society by *Dr George Balfour*, who requested Dr Wyllie or any of the members to examine the state of her heart and report to the Society. Dr Wyllie reported that the heart was slightly hypertrophied, but there was no murmur present nor any accentuation of the pulmonary second. Dr Balfour explained that he exhibited this patient, not because there was anything remarkable about her, but only because she was a very good example of a very common occurrence, still too feebly believed in by many practitioners; he referred to the cure of a dilated heart. About eighteen months ago this patient was admitted into Ward XIII., labouring under intense spanæmia, due to an abortion occurring in the course of typhoid fever. She had a loud venous hum, a distinct pulsation, accompained by a loud systolic bruit, in what he was accustomed to call the auricular area,—that is, about 1½ inches to the left of the sternum, in the second intercostal space. After several months' treatment she was dismissed cured, all her symptoms and physical signs having disappeared. Her home was not so comfortable as it ought to have been, and a few months subsequently she returned for advice with a relapse of all her symptoms; she was advised to come into the Infirmary, but preferred remaining at home, and was therefore dismissed with a prescription for a ferruginous tonic. However, she did not improve, and in October last she was readmitted to Ward XV. labouring under general dropsy, and passing only a small quantity of urine deeply tinged with blood. Her heart, particularly the right side, was greatly dilated, there was a loud systolic bruit over the whole of the cardiac area, and well-marked jugular pulsation. The important part of her treatment consisted in the administration of digitalis, not continuously in small or tonic doses, but intermittingly in large doses,—twenty or thirty minims of the tincture, or a proportionate dose of any of the other preparations, being given every three or four hours, for one, two, three, or more days, till a decided action was produced on the heart; the drug was then omitted for several days, until the normal rate and action of the heart were completely restored, after which the digitalis was again resumed in the manner already stated. During the intervals, iron, iron and quinine, or iron and arsenic, were administered as restorative tonics; but it was better, he believed, in these cases to administer the digitalis by itself. The result of this treatment was a gradual contraction of the cardiac cavity, always accompanied, when the case had been as severe as this one, with some degree of hypertrophy, originally set up to compensate the dilatation, but which was probably never entirely got rid of when once it had occurred. In the progress of such a case, it is important to prolong the intervals between the administrations of the digitalis, especially after marked improvement set in, as by thus throwing the heart on its own resources we learn to what extent the improvement is permanent. When the systolic murmur fairly disappears under the influence of the digitalis, we find that after each successively enforced disappearance, a longer interval is needful before the murmur reappears, and fewer doses of digitalis are requisite to cause its cessation, till at last it ceases to recur and the patient is cured. The patient exhibited afforded a very good example of the passage of simple spanæmic dilatation into that well-marked form unequivocally recognised as a species of cardiac disease, as well as of the curability of both forms.

II. *Dr Johnson Symington* showed a specimen of DISLOCATION OF THE HEAD OF THE RADIUS exhibiting some points of interest. The dislocation was forwards, the great peculiarity being that the radius was elongated and as long as the ulna. Several cases of dislocation backwards had been described, but he had been able to find none similar to his specimen. The cause of the elongation was probably the absence of the pressure of the capitellum of the humerus.

III. *Dr Cadell* then read NOTES OF A CASE OF UMBILICAL URINARY FISTULA.

Dr Argyll Robertson thought the Society was indebted to Dr Cadell for his excellent report of such a rare case.

Mr Joseph Bell felt indebted to Dr Cadell for his case, as such were exceedingly rare. He had once operated on one like it, but not so severe, however. The opening had been kept up by a calculus, and healed when it was removed. In Dr Cadell's case probably the first step was the formation of gritty particle which would set up cystitis. Then when the urine flowed by umbilicus, putrefaction would set up, and then the cystitis would continue. He did not think the treatment could have been better.

Dr Cadell had little to say in reply. The cause of the cystitis was obscure, and the only explanation seemed to be the existence of the partially obliterated urachus. There were no phosphatic deposits in the urine.

IV. *Dr Angus Macdonald* then read a paper on THE ESSENTIAL PATHOLOGY OF PUERPERAL ECLAMPSIA, which appeared at p. 961 of this Journal.

Prof. Stewart suggested that the debate on Dr Macdonald's paper should be postponed till their next meeting. This was unanimously agreed to.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XXXVII.—MEETING IX.

Wednesday, 27th March 1878.—Dr WILSON, *President, in the Chair.*

I. *Dr Macdonald* showed a preparation from a case of EXTRA-UTERINE FŒTATION, which had been sent to him by Dr Baird, of Perth, to exhibit before the Society.

The specimen which I would to-night present to the Society, was taken from the body of a woman (Jane B.) upon which I was ordered, along with Dr Crail, then of Bankfoot, to make a post-mortem examination on 24th April 1877.

The woman was apparently about thirty-four years of age, was unmarried, and of very stout build. There were no external marks notable. On opening the abdomen we found a quantity of clotted blood occupying the pelvis, which when removed measured four pints. After removal of the blood and the whole of the bowels, the uterus was exposed and seen to be ruptured on its upper, posterior, and left aspect, to an extent sufficient to admit the tip of the finger. The external os was slightly dilated, but no trace of injury or disease could be made out in the canal. When clearing out the blood we found a fœtus evidently of only a few weeks' development; and now at the ruptured part we found a sac having very thin, almost transparent, walls, from which evidently the fœtus had discharged itself. We could trace no direct communication between the sac and the Fallopian tube. It seemed to be almost quite closed within the wall of the fundus. I learned from Dr Crail that he had been called about twelve hours previous to death; but the patient being partially unconscious, and the symptoms anomalous, he decided, very properly, to refuse a certificate as to the cause. Six weeks had elapsed since the last menstrual flow. A small subserous fibroid will be seen on the first aspect of the organ, and a polypus of perhaps an inch in length occupied the cavity.

Dr Macdonald, after reading the above letter of Dr Baird, which accompanied the preparation, explained that, from a somewhat careful examination of the specimen, he was satisfied that the fœtation had been what is called tubo-uterine or interstitial. He further believed that it had arisen most probably owing to the combined influence of the fibroid at the left upper angle of the uterus, and of the polypus, which was situated near the same situation inside the organ. He believed that these structures had got congested between the period of insemination of the ovum and of its entrance into the uterus, and had blocked up the inner os of the Fallopian tube so as to arrest the ovum near the inner extremity. The history was quite consistent with that of an interstitial pregnancy, which usually burst before the end of three months.

Professor Simpson concurred in regarding the specimen as one of tubo-uterine fœtation.

II. *Dr Keiller* then read a paper entitled CURETTES AND CURETTING, and thereafter exhibited in illustration a variety of instruments which he had found useful in cases of a similar nature to some of those described by Dr Mundé. One of the instruments, bearing some resemblance to the curette of Thomas, and made of dull thick copper wire, he had found extremely useful in such cases, partly as a sound for diagnostic purposes, and also as an agent of real therapeutic value. An additional interest was attached to this instrument as being the original one formerly belonging to the late Professor Hamilton, with which he was in the habit of inducing premature labour.

The *President* thanked Dr Keiller for his paper, and the valuable observations therein contained on the use and abuse of currettes.

Dr Macdonald stated that he had listened with much pleasure to Dr Keiller's paper, and was satisfied that in its general drift it contained very much that was wise and sound. Indeed, with the exception of the condition of fungoid endometritis so beautifully described by Olshausen, he was not sure but that there ought to be no occasion on which curettes were absolutely needed, if the obstetrician or other attendant in charge of obstetrical cases on all occasions did what was required. Indeed, if all women were certain of having a thoroughly accomplished accoucheur at their labours and abortions, he felt sure that it would be rare indeed for any curette to be needed. But it was the fact that, partly from want of skill or courage on the part of the attendant, partly because a considerable number of women had no assistance when they aborted, every now and then patients were brought to hospital or came to seek the aid of the gynecologist, because they were brought to the very gates of death by hæmorrhage, referable to the retention of portions of the placenta or membrane of an abortion. Now, these cases urgently demanded treatment, and it was usual to dilate the cervix uteri by sponge or tangle tents, and scratch or peel off these tissues in some way. But we all knew that that was a proceeding not entirely free from danger, and it was yet to be decided whether a simple dull wire curette, such as Dr Mundé suggested, or dilatation of the cervix, was the less riskful. From his own recent experience, he was inclined to think that it might possibly turn out to be true that all that was needed could be effected by means of a copper curette in a uterus with its cervical canal moderately roomy without any artificial dilatation, and with even less risk than would accompany the use of a tent. He thought such proceedings ought to be practised with great care, but that it was a feasible operation in hæmorrhagic cases of the nature referred to in Dr Mundé's paper, and perhaps in some other conditions. He considered, however, the Society was indebted to Dr Keiller for giving them the benefit of his matured wisdom and lengthened experience in a question of this kind.

Professor Simpson thought no one better qualified than Dr Keiller, from his large and varied experience in such cases, to give us words of caution in regard to the use of such instruments as had been brought under the notice of the Society. But, as Dr Keiller had himself demonstrated to-night, there were many cases where we could only hope to benefit our patients by getting access to the interior of the uterus, and the question was, which method of intra-uterine interference was attended with least risk to the patient. He was of opinion that there was a class of cases in which the curette was undoubtedly useful. At present, he had under treatment two cases of intra-uterine carcinoma in which it had been of service. What he had chiefly learned from the recent paper of Dr Mundé was that the curette was often useful diagnostically as well as curatively; but he doubted whether Thomas's was of more service in the latter respect than the ordinary Recamier curette of small size. In working with both the Recamier and Thomas's curette he had felt the want of an elevation on the stem at 2½ inches from the extremity, like that with which the finger is familiar on the ordinary uterine sound. He had lately had a curette made with such a projection, and found that he could explore with greater precision the interior of an expanded uterus.

Dr Keiller, in reply, said he agreed substantially with the remarks of Dr Macdonald and Dr Simpson. Curettes were undoubtedly useful in hæmorrhage cases, first as diagnostic, then as curative agents. He wished it to be understood that he did not undervalue the use of curettes; but he was anxious to caution especially younger practitioners in their too indiscriminate use. He thanked the Fellows for the cordiality with which they had received his paper.

III. *Dr Buist* read NOTES OF A CASE OF RETROVERSION OF THE GRAVID UTERUS, which will appear in a future number.

The President having thanked Dr Buist for his paper,

Dr Croom said he thought the Society was indebted to the author for the careful manner in which the case had been recorded. There were many points of great interest in the case, 1*st*, The date at which it occurred, viz., between the fourth and fifth months; 2*d*, The ease with which, even at this late period, it was replaced; and, 3*d*, The detection of ballotment as a valuable aid in diagnosis. The whole history of it, he thought, corroborated the generally-received opinion that, in such cases, the retroversion generally occurred gradually, the displacements being, in the great majority of cases, present before conception.

Professor Simpson commended the paper. He thought there must have been retroversion from the very first to some extent, at last becoming complete, the uterus being ultimately driven down and impacted. He had treated a case lately, in hospital, in which emptying the bladder had been sufficient to allow of easy rectification. In another case which had come under the observation of the clinical class he remarked that the pelvis was contracted, and on inquiring into the history of the patient he found that she had always had difficult labours, some of them having been terminated instrumentally, and only three out of her seven children having been born alive. The conditions of the soft parts resulting from the bad labours had perhaps been mainly influential in giving tendency to retroflexion, but he could not doubt that the unusual projection of the sacral promontory had greatly favoured the displacement.

Dr Underhill considered the case interesting in the mode of attack. It was evident the displacement existed before pregnancy. He would have liked to know the condition of the bladder when the patient was first seen. About a year ago he had a case of retroflexion of the gravid womb, with difficulty in defecation. Pregnancy went on naturally. The unusually prolonged convalescence in Dr Buist's case he regarded as peculiar. He thought perhaps the irritation produced by the prolonged use of the pessary might have acted injuriously. The ballotment so readily detected in this case was interesting from a diagnostic point of view.

Dr Macdonald agreed with previous speakers as to the presumption that the retroversion had existed from the commencement of the pregnancy, and had gradually become more troublesome in consequence of the progressive enlargement of the uterus, until it reached the crisis which had necessitated some treatment. He referred to the occurrence of retroversion in contracted pelvis mentioned by Professor Simpson, and thought such cases capable of explanation in this way, that the necessary operative interference required in delivery with moderately contracted pelvis was apt to overstretch the uterine ligaments, particularly the retro-uterine ligaments, and thereby tend to the production of retroversion. Thus, although patients with large and roomy pelves were liable to this accident, the same tendency was apt to be developed when the pelvic conditions were exactly the reverse. In illustration of these statements he mentioned the case of a patient of his own with 3¼ conjugate, in which it had occurred. The patient had required to be delivered by turning on these occasions. The displacement took place in early pregnancy, requiring the use of a Hodge's pessary. He could not blame the pessary in Dr Buist's case for the slowness of the convalescence. He had seen a post-mortem examination of a patient who had died from peritonitis and uræmic poisoning, resulting from a severe retroversion of the gravid uterus; the ureters and kidney were dilated, and the bladder dilated, thickened, and inflamed. Were such conditions present in the present case in only a minor degree, it would more than account for the tardy convalescence.

Dr Ritchie thought the patient to some extent to blame for not attending to the bladder, the state of which was, in these cases, such a fruitful cause of uterine dislocation.

Dr Keiller thought the only other point worthy of note was the force required to replace the uterus. He referred to a case he had seen along with Dr Bruce, which at the time was brought into hospital. The uterus was so displaced that the fundus pressed down and distended the perineum. Great force was used in reduction, which was effected by pushing up the fundus, at the same time pulling down the cervix. In this case the patient went on to full term, and did well.

Dr Buist thanked the Fellows for the reception they had given to his paper. He thought complete retroversion had occurred at the time he had already stated. He could not agree with Dr Underhill in thinking the pessary did harm.

Part Fourth.

PERISCOPE.

In the *Proceedings of the Medical Society of the County of Kings* for February of this year, Dr J. S. Wright of Brooklyn, New York, has published a paper which quite subverts our former idea that man, the paragon of animals, is a symmetrical being.

This is not the case. Dr Wright's paper is entitled "Inequalities in the Lengths of the Lower Limbs before and after Fracture of the Femur," and his object is to show that the lower limbs of most persons are unequal by nature, and that therefore it is not the surgeon's fault, but nature's, that so many people are lame after fracture of the femur. If people started in life with a pair of legs equal in length, and after being broken and reunited, they were unequal, the surgeon might be blamed; but as very few people's legs are equal in length to begin with, Dr Wright considers that the difference after fracture cannot be attributed to the surgeon's unskilfulness, but to natural causes. We agree with Dr Wright in thinking that the shortening after fracture so often met with is in many cases not the fault of the surgeon; but not in thinking that the fact which he has elicited makes any material difference, for it follows that if there is *perceptible* shortening after fracture, where there was *no perceptible* shortening before it, there must be a fault somewhere, whether on the part of the surgeon, the patient, or nature, it is not necessary here to discuss.

The chief points in the paper are as follows:—Dr Wright has made careful measurements of the normal lower limbs of 102 males. He measures "from the under edge of the anterior superior spinous process of the ilium at the origin of the tensor vaginæ femoris," to the external and internal malleoli, making two measurements of each limb. He applies the tape-line with the figures down so that they cannot be seen. He found, that in 23 cases out of 102, the lower limbs were of equal length. That in 79 of the 102, the lower limbs were of unequal length.

That the equal cases are to the unequal as 1 to $3\frac{10}{23}$. Of the 79 cases, he found that in 27 cases the right lower limb was the longer. That in 52 cases the left lower limb was the longer. That the difference in length of the normal lower limbs of the same person varied from one-eighth of an inch to one inch. That over the whole 102 cases, the average difference in length of normal lower limbs is $\frac{28}{100}$ of an inch, practically a quarter of an inch.

The fact of a previous inequality in the length of the lower limbs having been proved, it follows that after fracture the limbs may be equal from fracture and consequent shortening of the longer one; or still unequal, whether more or less so depending on which was broken, the longer or the shorter.

"It is seen, then, that one surgeon may be called to treat fracture of a longer lower limb; that another may be called to treat fracture of a shorter lower limb; that the natural inequalities of the lower limbs may be put as a burden on the professional shoulders of one; that the natural inequality of the lower limbs may be removed from the professional shoulders of another; that the latter will be able to show as a result equal, or nearly equal, lower limbs; that the former will be able to show as his result unequal and *very* unequal lower limbs; that one will be called skilful, the other unskilful, and that the perils of the law hang over the head of one surgeon, while emoluments flow into the pockets of another."

So we learn that the only perfect standard of a lower limb of which the femur is fractured, is the limb itself before injury.

In case of doubt it is important to measure the other corresponding normal bones of the same body, which may afford valuable information in regard to treatment. Lastly, Dr Wright thinks that "a knowledge of the facts of a-symmetrical development will tend to prevent suits at law for malpractice."

THAT indiarubber occupies a place second only to steel in its adaptability to the requirements of the surgeon is a fact becoming more evident every day. In addition to the uses to which it is already put, Dr Henry A. Martin, of New York, proposes to treat a variety of surgical complaints by its means. He embodies his ideas in a pamphlet entitled, "On the Surgical Uses (other than Hæmostatic) of the Strong Elastic Bandage." The one on which he places most importance, and in which he has met with most success, is the treatment of ulcers of the leg. Of these he quotes four cases, one varicose, one callous, one complicated with phlebitis, and another of an unhealthy wound. All were bad cases, and in all the cure was complete. The method was as follows:—A bandage made of "pure rubber," measuring ten and a half feet in length, three inches in breadth, and corresponding to "No. 21 of 'Steele's wire gauge'" in thickness is used. The edges must be perfectly even. Into one end, two or three inches of strong linen cloth is inserted, and to this is sewed a stout double tape eighteen inches long.

The patient is directed to bandage the leg the first thing in the morning before the superficial veins can be at all distended. It must not be put on too tightly, but with just enough firmness to keep it on. On removing it at night, the limb will be found to be covered with moisture. It must be wiped dry, and the ulcer dressed with some simple dressing, such as olive-oil, and kept during the night on by a turn of a bandage. The bandage should be sponged with warm water and hung up to dry till morning. Before replacing the bandage over the leg and ulcer, care should be taken to remove any ointment entirely from its surface, as it would injure the rubber. If any constitutional taint be connected with the ulcer it must be met by appropriate remedies.

The *rationale* of this method is that the warmth and moisture of the skin induced by the presence of the bandage are very favourable in bringing the skin into a more healthy condition; while the gentle pressure of the bandage supports and strengthens the distended and weakened veins.

Next to ulcers, Mr Martin considers that injuries and diseases of the joints, particularly the knee and elbow, are most benefited by this mode of treatment. In these, he applies the bandage as soon after the accident or commencement of disease as possible. Its pressure is sufficient to cause absorption of the effused fluid. In these cases the bandage must be worn night and day. If left off for a single night the effusion will recommence. The treatment must be persevered in for about six weeks.

Dr Martin mentions several other classes of cases in which his bandage has been useful. In "housemaid's knee," he opens the bursa and at once applies the bandage. It is also useful in œdema and anasarca, erysipelas and erythema, and in skin diseases. By its gentle and long-continued traction, it is of use in greenstick fractures, and in recent cases of badly united fracture. It is also said to be useful in cases of rheumatic and neuralgic affections of joints, and lastly in varicose veins, as a substitute for the laced stocking.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By William Craig, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

Goa Powder in Skin Diseases.—Goa powder has been employed with a certain amount of success by Dr E. Besnier at the Saint Louis Hospital in Paris. In the treatment of psoriasis, it modifies the surface with rapidity, and seems to accelerate the cure of the eruption more quickly than oil of cade. A glycerole of Goa powder should be rubbed in every day. These frictions have the advantage of being odourless, but are very irritating to the eyelids, and may cause epiphora and redness of the conjunctiva. Friction with this powder has also cured eczema. Dr H. Blanc, an Indian army surgeon, states that he has found it useful in herpes circinatus; and Dr Champeaux, in a paper published in the *Archives de Médecine Navale,* comes to the conclusion that it is an antiherpetic.—*The British Medical Journal,* 13th April 1878.

Citrate and Bromhydrate of Caffeine.—At a recent meeting of the Société de Thérapeutique in Paris, M. Gubler pointed out the diuretic properties of citrate and bromhydrate of caffeine, in doses of fifty centigrammes (seven grains and a half), in the form of hypodermic injection. The diuretic effect is almost immediately produced, whilst with digitalis it is delayed for two or three days. Caffeine may be given as a draught for the same purpose, in doses of thirty centigrammes (four grains and a half). Caffeine increases the vascular tension less than digitalis does. The maximum action of digitalis is reached on the fourth or fifth day; and if the administration of digitalis be prolonged an accumulation of action is produced, that is to say, an opposite result to that desired. M. Gubler generally prescribes the alcoholic tincture in doses of twenty drops. If the kidneys do not yield to the action of this remedy, M. Gubler pronounces them to be incapacitated for use.—*British Medical Journal,* 16th March 1878.

THE ACTION OF DIURETICS.—According to Grützner (*Pflüger's Archiv*, xi. 370), there are two distinct modes by which the secretion of the kidney can be increased medicinally—(1) by raising the pressure in the arterial system generally, *e.g.*, by digitalis or strychnia; and (2), by directly influencing the secreting tissues of the organ, *e.g.*, by urea or nitrate of soda. If the blood-pressure in the arteries be lowered in rabbits or dogs by dividing the cervical portion of the spinal cord, and so destroying the controlling effect of the vaso-motor centre in the medulla oblongata, the urinary secretion almost completely ceases. If, however, urea or nitrate of soda be injected into the veins, there is a slight rise in the blood-pressure, and the kidneys recommence secreting under a pressure far below that at which they ordinarily secrete. The above drugs have the same effect if the blood-pressure is lowered by large doses of chloral hydrate or curare. This action of urea and nitrate of soda on the renal secretion appears to be of a "specific" character, and to be in some way connected with the function of the Malpighian tufts. It can be prevented by stimulating the medulla oblongata by electricity or by carbolic-acid poisoning, and so raising the blood-pressure throughout the body; for this induces vaso-motor nerve spasm, contraction of the renal arteries, lowered blood-pressure in the glomeruli, and arrest of the renal secretion in spite of the presence of these diuretics in the blood; the proof that the glomeruli are involved being this, that previous section of the vaso-motor nerves of one kidney is followed by abundant secretion of urine when the blood-pressure is raised, while the other kidney scarcely secretes at all. It further appears from Grützner's experiments that digitalis and strychnia exert a peculiar influence on the renal arteries, leading to vascular spasm and arrest of the urinary secretion, which does not depend on the vaso-motor action of the medulla oblongata, since it occurs indifferently whether the vaso-motor nerves of the kidney are divided or intact. That the effect is due to intra-renal vascular spasm is shown by the abundant diuresis which occurs at a later stage when the spasm has ceased, but the general arterial pressure continues high.—*Medical and Surgical Reporter.*

TREATMENT OF EXOPHTHALMIC GOITRE BY GALVANIZATION.—In the *Gazzetta Medica Italiana*, Dr D'Ancona relates the case of a woman, aged nineteen, suffering for two years from exophthalmic goitre, the usual triad of symptoms being well marked. In spite of all kinds of treatment she had arrived at such a stage of cachexia that her life was despaired of. At length galvanization, with ten elements of Stöhrer's portable battery, was tried; and, on finding that it was followed by rapid signs of amelioration, it was persevered in for five months. During this time one hundred seances, lasting from three to five minutes each, were given to the patient. She gained thirty pounds in weight, her face lost its paleness and regained its natural colour; the exophthalmia disappeared almost completely, as well as the enlargement of the thyroid body, and the pulse fell from 130° to 90°. Menstruation was restored, and in every respect the health of the patient was entirely re-established.—*Medical and Surgical Reporter.*

THE ALKALOIDS OF OPIUM.—The recognised opium alkaloids are sixteen in number. The effect of each differs from the rest, or from that of opium itself. Dr Isaac Ott (*Journal of Nervous and Mental Diseases*, January 1878) reports a large number of experiments which, taken in conjunction with previous knowledge, led him to conclusions summarized thus:—1. Cryptopia is narcotic, it excites and then depresses reflex action by an effect on the spinal cord, reduces the power of the motor nerves, abolishes sensation by an action on the spinal sensory ganglia, and lowers the heart-beat by an action on its muscular structure. 2. Thebaine is a spinal convulsivant; it has no action on the motor or sensory nerves, or on striated muscle. It reduces the heart-beat by an action on that organ, and increases blood-pressure by stimulating the cerebral vaso-motor centres. 3. Codreia is a narcotic and spinal convulsivant; it produces a veratroid contraction of striated muscle, and depresses the heart-beat by an action on the cardiac muscle. 4. Chlorocodide is a tetanic agent. 5. Apocodeia produces vomiting, coma, and death. 6. Narceine is soporific to cold-blooded animals, but not to man, and is a spinal convulsivant. It does not destroy the motor nerves, as they act on thrusting a probe down the spine. It produces a veratroid contraction of the muscle, and reduces the heart-beat by stimulation of the peripheral end of the pneumogastric. 7. Papaverine is narcotic and convulsivant, the convulsions being partly spinal and partly peripheral; the latter, it is highly probable, from an action on the muscle. It diminishes the heart's contractions by peripheral action on the cardio-inhibitory apparatus. It also causes veratroid contraction of the muscle. 8. Narcotine is non-narcotic and a spinal convulsivant; it produces veratroid contraction of striated muscle, and is a very active agent to decrease the beats of the heart by an action on the cardiac muscle. 9. Cotarnine is soporific and paralyzes, like curare, the motor nerves. 10. Hydrocotarnine is narcotic and convulsivant. 11. Hydrochlorate of cotarnamic acid is a convulsivant and paralyzes the pneumogastric. 12. Laudanosine and laudamine are tetanic agents. 13. Morphia is a narcotic and convulsivant, it produces veratroid contraction of the muscle and reduces the heart-beat. 14. Oxymorphia has an action like morphia, only weaker. 15. Apomorphia is an emetic, it excites and reduces spinal reflex excitability, and diminishes the number of cardiac contractions. 16. Meconine is narcotic to cold-blooded animals, but not in doses of two grains by the stomach in man. It causes hyperæsthesia and paralysis of voluntary motion with general relaxation. It also produces a veratroid contraction. The opium alkaloids all have a dominant action on the nervous system, causing first increased exaggerated functions, and if the dose be large enough, paralysis of them. In the warm-blooded animals this action is both on the spinal cord and on the cerebrum.—*The British Medical Journal.*

EFFECT OF PILOCARPIN ON THE EYE.—A paper was lately read by Dr Galezowski before the Biological Society of Paris, on the effects of pilocarpin, the active principle of jaborandi, on the eye. According to this well-known ophthalmologist, we possess in this new alkaloid a powerful myotic equal in effect to that of eserine; but it has the great advantage over the latter in producing less irritation or other mischief in the eye, for he has noticed after the use of eserine, that the patients have complained of intense ocular pains, followed by conjunctivitis attended with nausea. He employs pilocarpin in solution, selecting either the nitrate or the sulphate according to circumstances. In the former case, the strength of the solution is twenty centigrammes to ten grammes of distilled water; in the latter, ten centigrammes to six grammes. He prefers cherry-laurel water for the solution, as he has noticed that the pilocarpin loses its myotic properties after a time, when it is made up with ordinary distilled water, and care must be taken that whatever salt is employed, it must be perfectly neutral.—*Medical and Surgical Reporter,* April 1878.

THE ACTION OF PILOCARPIN.—Dr E. Kurz records that a patient with emphysema of the lungs and severe bronchial catarrh, had œdema of the lower extremities, atheromatous arteries, feeble and irregular cardiac sounds, and a serious dyspnœa. Half a drachm of a two per cent. solution of pilocarpin was injected under the skin. After ten minutes the medicine began to show its specific effect. The perspiration, however, was not very profuse; the skin became moist, but the sweat did not collect in drops. The salivation was very pronounced, and the bronchial mucus seemed to be expectorated with greater ease. The excretion of urine was not increased. The œdematous swelling of the legs diminished at once. The dyspnœa was less severe, and the patient, who had neither headache nor nausea, felt quite comfortable. The remedy was repeated several times, always with the same pleasant effect upon the patient's condition. (*Memorabilien* 1877, No. 11, *Chicago Medical Journal and Examiner,* Feb. 1878.)—*Practitioner,* May 1878.

Part Fifth.

MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS, EDINBURGH.—*Double Qualification.*—The following gentlemen passed their first professional examination during the April and May sittings of the Examiners:—William Thomas Waterson, Netherwitton; William Stevenson, Stirlingshire; Ralph Kinder, Manchester; Marcus Calder, Glasgow; David Carruthers, Kirkpatrick-Fleming; Arthur Neol, Brighton; David Henry Walsh, Bristol; William Chalmers Cowan, Dundee; William Bain, Caithness; William Thomas Thompson, Worcestershire; Gerald FitzGerald Thomas, Cork; Egbert Williams, Llandilo; Edwin Faulkner, Bangalore, India; Henry Joseph Clements, County Kerry; Richard Blair Cullin, Dublin; Robert William Anderson, Portsmouth; John M'Nicoll, Liverpool; William Cochrane Corbett, County Cork; Arthur Hyde Burtton, Devonshire; Frederick Herbert Daly, Dublin; Michael Keily, Limerick; George Cuthbert Clarke, Middlesex; James Murdoch Cameron, Edinburgh; Perceval Crawford Boyd, Hobart Town; John Crawhall Nichol, County Durham; Thomas Henry, County Tyrone; Charles Wesley Wilson, Ulverstone; Hugh Davies Jones, Anglesey; Thomas Morgan Martin, Dublin; Thomas Matthews, County Down. The following gentlemen passed their final examination, and were admitted L.R.C.P. Edinburgh, and L.R.C.S. Edinburgh:—Albert Elhanan Mallory, Cobourg, Ontario; Francis Dixon, Derbyshire; Robert Logan, Dumfries; James Edwin Eakins, Newburgh, Canada; Samuel Wellesley Coombs, Oswestry; Thomas Moynihan, Cork; Edward M'Callum, Edinburgh; John Thomas Burgess, Spilsby; David M'Eniry, Clonmel; Frederick Aubrey Smith, Manchester; William George Creswell, Berkshire; Kenneth Maclean, Stornoway, Lews; William Nicol Elder, Elginshire; James Steel, Bushmills; Charles Jee, Spilsby; James Griffith Macaskie, Berwick-on-Tweed; Thomas Neil Cream, Glasgow; Daniel O'Sullivan, Killarney; Charles Clark Burman, Whitehaven; Alfred Stanhope Dawson, Croydon; John Robertson, Kilmorack, Inverness; Herbert Saunders, London; Maurice Alfred Chilton, Wiltshire; William Duncan Robertson, Montreal; Robert Stuart Reid, Dunedin, N.Z.; William Henry Vickerstaff, Macclesfield; John James Goodlatte Murray, Dublin; John Chestnutt, Tralee; Edward Lewis Maunsell, Edinburgh; Francis George Wright, Southsea; Andrew Thomas Somerville, New Brunswick; John Service, Kilwinning; Robert Nelson Jack, Newton-Stewart; John Yellowlees Tant, Argyleshire; John Hay Honeyman, Thurso; George Annand, Melbourne; William George

Jack, Dunkeld; John Joseph Gordon, County Sligo; Llewellyn Thelwall, Wrexham; James Hartley, Marton; Froster John Pilgrim, Barbadoes; Thomas Brayton, Whitehaven; James Charles Ady, Moulmein, Burmah; James Steele Boe, Dunblane; Charles Mason Johnston, Port Louis, Mauritius; John Joyner Fraser, Tain; William Alexander Logie, Kirkwall; Adam Anderson, County Donegal; Josiah Williams, Cardigan; George Henry Lamson, New York; John Wilson Moore, Drogheda; John O'Brien Curtin, West Newcastle; Robert Parkin Simpson, Lincolnshire; James Mithiel Phillips Hosking, Cornwall; Mackintosh Collie, Elgin.

ROYAL COLLEGE OF SURGEONS, EDINBURGH. — The following gentlemen passed their first professional examination during the April sittings of the Examiners:—William Albert Maurice de Matteville, Berne; Alexander Henderson, Perthshire; Isaac Williams, ——; John Tubb Thomas, Pontypool; William Doughty, Shropshire; and the following gentlemen passed their final examination, and were admitted L.R.C.S. Edinburgh:—Edward Fowler Scougal, Cheltenham; Raglan Wykeham Barnes, Aylesford; Thomas Charles Walker, Linlithgowshire; Henry Ruby Harley, Cork; Hanmer Dickson, Tripoli, N. Africa; Eugene Joseph O'Mullane, Mallow; Charles Walker Cathcart, Edinburgh; James Mulligan, Dromore; David Collie, Edinburgh; Charles Albert Bestall, Wicklow; Edward Harwood Bowker, Derbyshire; Alexander Henderson, Perthshire.

DEARTH OF CANDIDATES FOR THE ARMY MEDICAL SERVICE.— The following letter on this subject has been sent to the Secretary of State for War:—

SCHOOL OF MEDICINE, EDINBURGH, *26th April* 1878.

SIR,—The Teachers in the School of Medicine, Edinburgh, in addressing themselves to a reply to the question put to them by Her Majesty's Secretary of State for War, in your letter to them of date 21st March 1878, No. $\frac{7609}{632}$, "as to the specific causes which produce the existing difficulty in obtaining Candidates for the Army Medical Department," and as to the grounds on which, in their opinion, the "great unwillingness to compete for Commissions in the Army Medical Department has for some time existed on the part of Medical Students, and this notwithstanding that many measures for the improvement of the Department have been introduced by Mr Hardy and his predecessors," have ascertained that the unpopularity of the Army Medical Service has arisen from the Medical Officers' actual experience of two distinct sets of specific causes, the knowledge of which by professional aspirants fully accounts for the present dearth of Medical Officers in the Army; seeing that feelings within the Army Medical Department reflect themselves without, and that the Students of Medicine are influenced by the opinion of those who have already served the Government.

The whole matter of the present dead-lock for Candidates presents itself before the Teachers in a twofold aspect, viz.:—FIRST, *the Primary Causes, or Things of the Past;* and, SECONDLY, *the Secondary or Existing Causes* that tend to repel the best men from joining the Army Medical Department.

I. *Primary Causes.*—§ 1. A feeling that, for the last twenty years, faith has not been kept by the authorities towards the Officers in the Executive Ranks of the Army Medical Service; and, therefore, a consciousness of distrust and uncertainty is kept alive by the recollection of these changes. Notwithstanding the agitation among the younger Medical Officers caused by the constant alterations of the Medical Warrants after 1858, and the abrogation by War Office Circulars of advantages supposed to have been *permanently* secured by Royal Warrants, yet the majority of Medical Officers were content, prior to July 1872; at which date the War Office letter cutting down the allowances for forage of Surgeons-Major was issued, causing widespread dissatisfaction. In addition to this there is the withdrawal of the Roster of Foreign Service from public inspection, and the withdrawal of the privileges and precedence belonging to "relative rank" granted to the Department by the Royal Warrant of 1858. Moreover, much discontent exists at the interpretation given to provisions contained in Warrants from time to time issued from the Department, of some the very letter being violated. And, further, a doubt prevails if anything promised will be kept in the spirit, if even kept in the letter. In short, uncertainty pervades all; no one knows what a day may bring forth. No one can tell that anything guaranteed by one Government may not be taken away by the next, or even by themselves. Changes are made retrospective. A man who enters on certain conditions has no guarantee that he will be allowed to serve on under these conditions, or have the option of leaving with compensation.

§ 2. By the high-handed uncompromising manner in which the Unification Scheme was carried out by the Royal Warrant of 1873, the confidence of the Medical Officers was farther shaken, the bitter feeling against the War Office was intensified, and the Medical Officers at every station were driven to bay. The effects of this were that the several Teaching Bodies loyally backed up the complaints of Medical Officers; their younger brethren were thus warned; this want of trust was communicated to the students, and, as a result, the supply was cut off.

§ 3. The fact that Appointments are no longer permanent, but that a Surgeon or Surgeon-Major is liable to be removed at a day's notice, and thereafter is subject to be constantly shifted about, tells most seriously upon the welfare of the sick.

A Practitioner in private life must take some time before he becomes acquainted with the constitutions of his Patients, and the experience of old Regimental Surgeons enables them conscientiously to affirm that the constant shifting of a Medical Officer from the charge of a Regiment to some other duty, is as detrimental to the well-being of his Patients as the frequent removal of his professional brethren in civil life would be. The Regimental Surgeon knows the Men, Women, and Children of his Regiment, and is interested in their whole welfare more than if they were perfect strangers to him. And as regards the Sick-list itself, the abolition of the "Regimental system" has placed the Senior and the Junior officers in an unsatisfactory position in relation to their several duties. By the complete setting aside of Regimental Medical Officers, no position more painful than that assigned to an army Medical man can be conceived. He is the only officer there who has no status, he is allowed, only through the courtesy of the Regimental Officers, the comforts of the Mess. The removal of Medical Officers from Regiments was thus destructive of their social status and other attractions of a military life, depriving them — especially the Juniors — of signal advantages secured by the Regimental system. By it the Surgeon enjoyed a home—so to speak—and his social position was recognized by the public, he forming really a part of the Regiment. In short, it is beyond a doubt that a very large proportion of the Medical men who entered the Service were induced to do so by the same motives which actuate combatant Officers and Recruits generally. These are mainly the hopes of getting identified with a Regiment, and of seeing the world in the company of Comrades who know and interest themselves in one another. As long as the Regiment is the unit of the British Army this feeling will remain. The Regimental, with some modification of the present Departmental system, seems to be what is required. But the arbitrary manner in which the old Regimental system was abolished, was indeed a cruel hardship on the great bulk of the Medical Officers of the Army. It entailed on them substantial loss, and so thoroughly embittered them as to have proved perhaps *the* cause that has *most* contributed to the existing break-down.

II. *Secondary Causes.*—§ 1. As specimens of the ordinary War-Office-treatment of Medical Officers—in which, when any rectification of former injustice is granted, it is seldom fully and freely done—there is a hitch or a sting of some kind left—two instances may suffice. In the matter of Departmental Lodging Allowances, approved on 7th January 1877, for all Medical Officers not required to live in barracks, no right was conferred, and each case had to be fought out on its own merits. Again, by the Army Mobilization Scheme—providing a supply of horses for officers under the rank of Major—a *difference* is made in the Artillery Officer being supplied with Officer's saddlery, his Medical comrade with non-commissioned officer's.

§ 2. The great difficulty in obtaining *Leave of Absence* is a fruitful source of discontent. Latterly, on account of the paucity of Officers, Surgeons arriving home after a five-years' tour of Foreign Service have not received one day's leave of absence! Again, leave being restricted to sixty-one days in the year—the same limitation as no doubt applies to the whole staff of the Army, but Medical Officers are exposed to the evil influences of climate and contagion a hundredfold more than the Staff—whereas Combatant Officers, who are not exposed to like depressing influences, have two-and-a-half months at a time, and can get forty-eight hours, and a week, or more at times, not counted out of their long leave. Medical Officers would not perhaps be conscious of the restraint complained of were Leave of Absence made cumulative if it cannot be granted during any one year, so as to cumulate to the reduction of Service for pension (*see* § 7).

§ 3. The Limitation of *Sick-Leave* marks the injustice to which Medical Officers who have lost their health in the Service are treated compared with the kindness shown to other Officers, and much inquietude is known to exist throughout the Department at the difference made between its Officers and their Combatant brethren in this matter. The latter may have Sick-Leave renewed almost *ad libitum*, or be allowed to serve at the Depôt of their Regiments at home should they have come from abroad. But should a Medical Officer be invalided on account of sickness contracted in and by Service, or break down from the effects of climate, unless he is able to return fit for duty to the Station or climate, within six months, being refused leave to exchange he is at once placed on half-pay, his period on which does not count over to promotion and retirement, and a result is that a junior Surgeon may be put over his head, and, probably also, he suffers a loss of all or part of his pension. For, after a time being ordered out and he unable to go, he is either shunted occasionally without any pay at all, or, if over twenty years' service on full-pay, with a diminished income, and this for losing his health in and by the Service. Now, if sticking to one's post in a dangerous climate is to be rewarded like this, how can young men be expected to volunteer? Why should Medical Officers be so hardly dealt with? Pay in the Army is small, and as the expense of a Medical education has increased of late years, a certainty of something is absolutely necessary.

§ 4. The *Short Service Warrant and Bonus*—making the retirement of a Medical Officer compulsory, unlike other Departmental Officers, after ten years' service—as no longer fit for his duty. As a rule, the ten best years of a Surgeon's life are not deemed adequately paid for by a bonus of £1000 in lieu of pension to begin life afresh. The "Ten Years' System" is viewed but as a transparent fallacy. The £250 a year is but a very few pounds more than the 10s. a day with lodging and servant-allowance, which Assistant Surgeons had drawn for years. What good man would enter a service in which at the end of ten years he would be no better off than at starting, with the almost certainty of his being turned adrift with his Bonus, but probably a poorer man than when he entered, and with a great chance of having a constitution shattered or materially injured. We cannot understand how any but the waifs and strays of the Profession could be expected as Candidates. Candidates on such terms are required to lose all home ties without an equivalent, and after ten years of dissatisfied work they run the chance of being cast on the world with the stigma of having proved failures.

§ 5. The refusal to sanction *Voluntary Exchanges* between Medical Officers of similar grades, which cost the Government nothing, in cases of Medical Officers being sent home sick from abroad. If such a man, in broken health, put on half-pay, never recovers health sufficiently to go out, and has no private means, and no friends to help him, he would seem to have only one path to tread—from the Army Medical Department to the Workhouse. No such rule applies to Combatant Officers, who in such circumstances would probably be granted an Exchange. Combatant Officers are allowed to exchange for other reasons *also* than health, and in all fairness Medical Officers claim the same permission. Were this privilege granted Medical men with some private means would perhaps join if they could hope by Exchange to remain at home, and the social position of the Department, let us hope, would be raised, while those Officers whose broken down health from service in the Tropics might, through the Safety-valve of the free use of exchanges, be in some manner connected with the Reserve Forces.

§ 6. The *increased wo/k without any corresponding advantage,* thrown upon Medical Officers by taking the duties of *Militia* Surgeons from them to save a trifle of their emolument. Few things have caused so much annoyance to Army Surgeons as the examination of Militia Recruits. The necessity of supplying Medical Officers to Militia Regiments, having no surgeons of their own, curtails the chances of leave of medical officers in the District.

Again, enforcing *Subalterns' duties* upon officers ranking as Lieutenant-Colonels. Many of the Medical Officers, who in their time had performed the duties of Assistant-Surgeons, find that now they have no assistants to help them, or relieve them from the drudgery of junior men's work.

Once more, it is keenly felt that there ought to be *professionally educated officers as Dispensers* at Hospitals and Stations instead of the duty being undertaken by non-commissioned officers of the Army Hospital Corps. Such a measure would tend to fill up partly the blank in medical services occasioned by the abolition of the position of Assistant-Surgeon.

All these things are talked of and written about; all tend to keep up discontent within the Army Medical Department, and lessen the amount of *esprit de corps* in it; and until removed

Medical Officers will continue to dissuade their relatives and friends from entering a service that is rife with disadvantages and has been shorn of its attractiveness.

§ 7. *The want of some improved Scheme of Retirement, and also an improvement in the position and pay of the Senior ranks, to which those entering might look forward. The small amount of Half-pay after twenty-five years' service and the compulsory retirement of the "Executive Ranks" at fifty-five years of age.* Medical Officers acutely feel that owing to the abolition of the Regimental system they are entitled to *compensation* in the shape of increased pay and pension—such as the privilege of *optional* retirement on 20s. per diem after twenty years' full-pay service—seeing that no compensation was given to those turned out of Regiments.

§ 8. Finally, the Teachers consider that until the Authorities shall see fit to improve the condition of the Department generally, somewhat as above indicated, instead of legislating for the lower ranks only—as has been mainly the case for years past—the best Candidates of the Profession will certainly not be attracted to the Service.—I am, etc., P. D. HANDYSIDE, M.D., *Convener.*

OBITUARY.

DEATH OF SIR JAMES COXE.

ONE of the contributors to the first number of this Journal, which appeared in January 1841, was Sir James Coxe, who died at Folkestone on the 9th of May. The abridged translation of Gerdy's cases of Pleuro-pneumonia, which forms a part of the Periscope of that number, was written by Sir James, who in other ways assisted the editor, Sir John Rose Cormack, in starting the Journal. Sir James then resided in Hope Street, and was engaged in the practice of his profession. But soon after this, in 1841, he married Mrs Fraser, one of the Cummings of Logie and daughter of the "Bonny Lesley" of Burns, and for a time left Edinburgh. Their married life was a long one, but not longer than it was happy; and the death of Lady Coxe in 1875 was a blow from which he never recovered. He distressed no one by repinings, but his intimate friends saw that his health was suffering. In tender and almost womanly acts his unceasing sorrow was revealed to those who were in close association with him; but to the world he maintained a cheerful bearing, and occupied himself in the discharge of his public duties in as efficient and conscientious a manner as ever, taking his wonted interest in every movement that had the good of the people or the relief of suffering for its object.

He left home about the end of April with the intention of spending some weeks on the Riviera. He and Mr Gibbon, the friend who accompanied him, halted in Paris for a few days, and it was there he was attacked by the illness which eventually proved fatal. The revisiting of places, which in other company he had often visited before, gave him much pleasure; but the fatigue brought on diarrhœa, to which for more than a year he had been occasionally liable. He was seen by his friend Sir John Rose Cormack, and contrary, it is believed, to advice, he started for home, so anxious was he to return to Edinburgh. He rested at Boulogne; but his ailment continued, and when he reached Folkestone the heart affection, under which he laboured, began to render his condition grave, and he died on the evening of the 9th, his much-loved daughter, Mrs Rose-Innes, and other friends, being with him.

Sir James was born at Gorgie in 1811. His father died while he was young, but his mother, who was a woman of high character and much ability, had the advantage of being assisted in the bringing up of her children by the advice of her brothers, George and Andrew Combe. James, who chose the profession of medicine, pursued his studies for several years in Holland, Germany, and France; and he kept up to the close of his life the knowledge of languages which he thus acquired. He graduated in the University of Edinburgh in 1835, and two years after joined the College of Physicians, standing fourth on the list of its Fellows at the time of his death. From the outset of his professional life he gave special attention to the study of the physiology and pathology of mind. His natural tastes led him in this direction; but he was probably encouraged in taking it by the Combes, with whom he was in constant association. He attended lectures on mental diseases, and made himself acquainted with the various modes of treating the insane in the different countries he visited. So special, indeed, were his tastes and acquirements, that he at one time contemplated the starting and conducting of a private asylum in the neighbourhood of Edinburgh. It was not, however, till the appointment in 1855 of a Royal Commission to inquire into the management of the insane in Scotland, that Sir James became actively engaged in this special branch of his profession. He was nominated a member of that commission, in association with Mr Gaskell and Mr Campbell, two of the English Commissioners in Lunacy, and the late Mr Earle Monteith. The writing of the Report fell chiefly to Sir James. To the able manner in which it was drawn up Sir George Grey directed the special attention of the House of Commons, and it led to the passing of Lord Moncreiff's Lunacy Act in 1857. Under that Act Sir James became one of the paid Commissioners, and he held the appointment till his death, giving to the discharge of its duties, in the most literal sense, the whole of his time and mind. Broad and liberal in his views, always honest and direct, with the courage of his opinions—Sir James was, during the twenty years of his official career, the guiding spirit in the administration of the Scotch lunacy law. His conscientious performance of everything he undertook was not stronger in public than in private life, though it was necessarily more seen and felt; and it was this, in combination with the wide knowledge he had of his subject, which gave him the power he exercised so wisely. The Lunacy Act of 1857, to which reference has just been made, and of which Lord Moncreiff may well be proud, derived its colour from the Report which was written by Sir James; but in 1862 and 1866 it underwent important amendments at his suggestion, and these have given it a character so special as to attract the attention of continental and colonial governments. In the Report of the Select Committee of the House of Commons, before which Sir James and his colleague, Dr Arthur Mitchell, gave evidence last summer, several of the distinctive features so introduced into the Scotch law are recommended for adoption in England, and it cannot be doubted that this was a source of much satisfaction to Sir James, though in a hundred other ways it was well known to him that many who at first condemned his opinions, now accepted them, not only as benevolent and just, but as capable of being safely and advantageously put into practice. He had further amendments in view, and on his way to the Continent visited the asylums at Caterham and Clapton, which have been erected near London under the Metropolitan Poor Law Act, and which are designed to receive special classes of the insane. The observations which he made at these visits, it is understood, he carefully reported to Dr Mitchell, who has always supported him in his views.

Sir James recently wrote a pamphlet of considerable length on the "Relations of the State to Lunacy," and those who are best able to judge in such matters are of opinion that, long after his death, his influence on lunacy legislation will be exercised through its pages. The remarkable address he delivered, when President of the Psychological Association in July 1872, is still bearing good fruit; but of all his writings, those which have most influenced opinion are the Annual Reports of the Board of Lunacy, the first fifteen of which were written entirely by him.

Sir James was a staunch friend, and he lived in a circle of good men and true, who were warmly attached to him. Meanness and untruthfulness he detested, yet he was ever gentle in dealing with the weaknesses and shortcomings of his fellows.

He received his knighthood in 1863 in recognition of the work he had done in the cause of the insane poor; and never was recognition of important public service better bestowed or more modestly received. He was "a very perfect knight"—knightly in soul and in mien—and his picturesque figure will be missed by many who had not the privilege of knowing how good he was.

PERIODICALS RECEIVED.

American Journal of the Medical Sciences,—April.
American Journal of Obstetrics,—April.
American Practitioner,—March-April.
Analyst,—April-May.
Annales d'Oculistique,—March-April.
Archives Générales de Médecine,—April-May.
Archives de Tocologie,—April-May.
Archives of Dermatology,—April.
Australian Practitioner,—January.
Berliner Klin. Wochenschrift,—March 25-May 20.
Birmingham Medical Review,—April.
Births, Deaths, and Marriages, Monthly Return of,—March-April. Quarterly Return,—March.
Boston Medical and Surgical Journal,—March 14-May 2.
Brain,—April.
British Medical Journal,—March 30-May 11.
Bulletin Général de Thérapeutique,—March 30-May 15.
Centralblatt für Chirurgie,—March 30-May 18.
Chicago Journal,—April.
Detroit Lancet,—March-April.
Dublin Journal of Medical Science,—April, May.
Etudes Medicos,—March 1-20.
France Médicale,—March 27-May 18.
Gazetta Medica da Bahia,—Feb.-March.
Gazette des Hôpitaux,—March 26-May 18.
Gazette Hebdomadaire de Médecine,—March 29-May 17.
Gazette Médicale de Paris,—March 30-May 18.
Gazette Médicale de Strasbourg,—April-May.
Glasgow Medical Journal,—April-May.
Journal de Thérapeutique,—March 25-May 10.
Journal of Anatomy and Physiology,—April.
Journal of Mental Science,—April.
Journal of Psychological Medicine. Vol. IV. Part I.
Journal of the Scottish Meteorological Society,—Nos. 51-54.
Kings, U.S., Proceedings of Medical Society of County of,—April-May.
Klinische Monatsbläter für Augenheilkunde,—March-May.
Lancet,—March 30-May 18.
L'Année Médicale,—March-April.
London Medical Record,—April, May.
Medical Examiner,—March 28.
Medical Press and Circular,—March 27-May 15.
Medical Times and Gazette,—March 30-May 18.
New York Medical Journal,—April-May.
Nordiskt Medicinskt Arkiv,—Band x.
North Carolina Medical Journal,—March-April.
Obstetrical Journal,—April-May; American Supplement,—Jan.-March.
Philadelphia Medical and Surgical Reporter,—March 16-April 27.
Philadelphia Medical Times,—March 16-April 27.
Practitioner,—April-May.
Progrès Médical,—March 30-May 18.
Recueil D'Ophthalmologie,—April.
Revue de Thérapeutique Médico-Chirurgicale,—April 1-May 15.
Saint Louis Medical and Surgical Journal,—April-May.
Sanitary Record,—March 29-May 17.
Virchow's Archiv,—March-April.

PUBLICATIONS RECEIVED.

G. G. Bantock, M.D., F.R.C.S. Edin.,—Treatment of Rupture of the Female Perineum. London, 1878.
G. G. Bantock, M.D., F.R.C.S. Edin.,—Use and Abuse of Pessaries. London, 1878.
J. B. Berkhart, M.D.,—Asthma: Its Pathology and Treatment. London, 1878.
Lennox Browne, F.R.C.S. Ed.,—The Throat and its Diseases. London, 1878.
Charles Creighton, M.B.,—Physiology and Pathology of the Breast. London, 1878.
Louis A. Duhring, M.D.,—Atlas of Skin Diseases. Part III. Philadelphia, 1878.
Austin Flint, jun., M.D.,—The Source of Muscular Power. New York, 1878.
Albrecht von Graefe's Archiv fur Ophthalmologie. Berlin, 1878.
T. H. Green, M.D., F.R.C.P.,—Pathology of Pulmonary Consumption. Lond., 1878.
Jonathan Hutchinson, F.R.C.S.,—Illustrations of Clinical Surgery. Fasc. XI. London, 1878.
Lake-Elbe. Kosmogonia. Edinburgh, 1878.
J. G. M'Kendrick, M.D., F.R.S.E.,—Outlines of Physiology in its Relations to Man. Glasgow, 1878.
Dr W. Theodor v. Renz,—Die Heilkrafte der sogenannten indifferenten Thermen insbesondere bei Krankheiten des Nervensytems. Tubengen, 1878.
Edward J. Tilt, M.D.,—Handbook of Uterine Therapeutics. London, 1878.
Transactions of the American Dermatological Association. New York, 1878.
D. H. Tuke, M.D.,—Insanity in Ancient and Modern Life. London, 1878.
Charles West, M.D.,—Medical Women: a Statement and an Argument. London, 1878.

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Chicago Medical Journal and Examiner, *rev.*, 1026.

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Meeting ix., 6*th June* 1877.—Exhibition of patients and specimens by Mr Bell, Dr Balfour, and Mr D. J. Hamilton; Mr D. J. Hamilton read a paper on tubercle in the human lung, with discussion by Drs Littlejohn, Wyllie, and Gairdner; papers read by Dr John Duncan on the use of mercury in syphilis, and by Dr A. G. Miller on venereal infection, with discussion by Drs Littlejohn, Miller, Cadell, Duncan, and Mr Bell, 176–180.

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Meeting iii., 16*th January* 1878.—Exhibition of patients by Professors Stewart and Annandale and Mr Bell; specimens by Drs Argyll Robertson, Duncanson, Cadell, and Mr Bell; paper on aneurism by Dr Byrom Bramwell; discussion by Professors Sanders and Stewart, and Dr Black, 845–850.

Meeting iv., 6*th February* 1878.—Exhibition of specimens by Professor Spence, Dr Duncanson, and Mr D. J. Hamilton; paper read by Professor Fleeming Jenkin on sanitary inspection; discussion by Drs Sanders, Taylor, Grainger Stewart, Carmichael, Miller, Russell, Simpson, Cunynghame, Clouston, Waller, Foulis, Robertson, Young, and Professor Spence, 938–945.

Meeting v., 6*th March* 1878.—Exhibition of patients by Mr Annandale, specimens by Professors Spence and Annandale and Drs W. A. Jamieson and Muirhead; note of case of malformation of the leg, by Johnson Symington, M.B., read by Dr Craig; discussion by Professors Sanders and Annandale, Drs Macdonald, Duncanson, Wyllie, and Haycroft, and Mr Chiene; paper by Dr Jamieson on a case of lupus; discussion by Drs Stewart, Moinet, Wyllie, and London, 1034–1038.

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Meeting xiv., *13th June* 1877.—Specimens exhibited by Drs Jamieson, Young, and Underhill; paper communicated by Dr Young for Dr Porteous on a case of vicarious menstruation; paper read by Dr Jamieson on systematic prevention of after-pains, with discussion by Drs Simpson, Gordon, Young, Croom, Carmichael, and Underhill, 263, 264.

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Meeting iii., *12th December* 1877.—Specimen exhibited by Dr David Wilson; paper read by Dr Young on occlusion of the vagina; discussion by Drs Underhill, Croom, and Simpson; paper by the late Professor Gustav Simon, communicated by Dr Kirk Duncanson; remarks by Professor Simpson; paper communicated by Dr Matthews Duncan through Dr Underhill on weak labour; remarks by Drs Croom, Underhill, Simpson, Duncanson, Craig, and Rattray, 753–756.

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